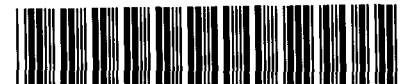


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Arizona Corporation Commission

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WILLIAM A. MUNDELL
MIKE GLEASON
KRISTIN K. MAYES
GARY PIERCE

AZ CORP COMMISSION
DOCUMENT CONTROL

IN THE MATTER OF THE APPLICATION OF
ARIZONA-AMERICAN WATER COMPANY,
AN ARIZONA CORPORATION, FOR A
DETERMINATION OF THE CURRENT FAIR
VALUE OF ITS UTILITY PLANT AND
PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES BASED THEREON
FOR UTILITY SERVICE BY ITS SUN CITY
WASTEWATER AND SUN CITY WEST
WASTEWATER DISTRICT.

DOCKET NO. WS-01303A-06-0491

NOTICE OF FILING

The Arizona Corporation Commission ("Commission") Staff gives Notice of Filing the Arizona American Water Company ("AAWC" or "Company") Meter Reading and Billing Investigation Report. On November 1, 2005, the Utilities Division of the Commission issued a request for proposal ("RFP") to assist the Utilities Division Staff with its inquiry into the usage estimation, meter reading, refunding and billing practices of AAWC. Barrington-Wellesley Group Inc. was subsequently retained by the Commission Staff to conduct an extensive investigation and issue a report of its findings, conclusions, and recommendations.

The Investigation ensued because in late August 2005, the Company and the Utilities Division Staff began to receive calls from customers located in its Sun City, Sun City West and Agua Fria Districts regarding unusually high water bills. Over a three and one half month period, AAWC received approximately 1,667 calls to a hotline established for customers to notify the Company of billing problems. The Commission received approximately 226 complaints from customers of AAWC over the same period of time related to the high bills received by customers.

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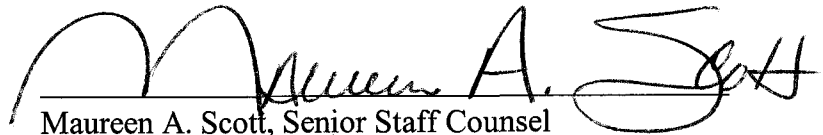
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1 Staff believes that the Report and its finding and conclusions are best addressed in the context
2 of the current docket. Staff has discussed this with counsel for the Applicant and the Residential
3 Utility Consumer Office ("RUCO"). Neither RUCO nor the Applicant object to its inclusion in this
4 Docket.

5 RESPECTFULLY SUBMITTED this 15th day of February, 2007.
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8 
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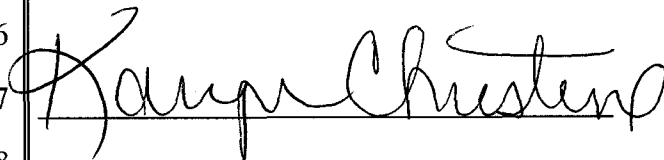
14 Original and thirteen (13) copies
15 of the foregoing filed this
16 15th day of February 2007 with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

19 Copies of the foregoing mailed this
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**Arizona American Water Company
Meter Reading and Billing Investigation
Final Report**

For the
Arizona Corporation Commission
Utilities Division

August 21, 2006

Barrington-Wellesley Group, Inc.

EXECUTIVE SUMMARY
ARIZONA AMERICAN WATER COMPANY
METER READING AND BILLING INVESTIGATION REPORT

A. OBJECTIVES

The objectives of this investigation are to:

1. Determine if there is a systemic and / or pervasive problem with Arizona-American Water Company (AAWC) in terms of meter reading and the rendering of accurate customer bills.
2. To the extent that the problem is determined not to be pervasive for the entire system:
 - a. Determine that the meter reading problem is isolated to a specific instance or instances;
 - b. Identify the timeframe(s) in which the meter reading errors occurred; and
 - c. Determine that the remedy applied is symmetric with harm incurred.
3. Determine that the methods of refunding amounts overbilled are reasonable

B. FINDINGS AND CONCLUSIONS

There are twenty-one primary findings and conclusions in this report. Related recommendations, which are listed in **C. RECOMMENDATIONS** of this Executive Summary, are referenced as appropriate following each finding and conclusion.

1. The recurring meter reading problems identified in 2005 suggest that the Company has not properly emphasized the importance of actual meter readings in generating accurate customer bills when training and managing its meter reading staff, especially given the Company's inverted rate structure. (See Recommendation No. 1)
2. The Company did not take timely action in response to identified meter reading problems in 2005. (See Recommendation No. 6)
3. While the majority of the amounts overbilled occurred as a result of curbed meter readings in July and August 2005, meter readings were curbed in prior months as well in the Sun City, Sun City West, and Agua Fria districts. (See Recommendation No. 15)
4. AAWC management ultimately took action in 2005 to help prevent these problems from re-occurring. (See Recommendation No. 7)
5. Meter reader training programs are reasonably effective; however, meter reading procedures have only recently been documented in a formal meter reader training manual.

B. Findings and Conclusions (Continued)

6. The relationship between AAWC and its affiliates has no adverse effect on AAWC meter reading practices; however, billing exception parameters are established consistently for all American Water operating companies and do not meet the needs of AAWC. (See Recommendation No. 5)
7. AAWC meter reading practices are generally reasonable and consistent with industry standards. (See Recommendation No. 4)
8. AAWC internal controls to ensure meter reading accuracy need to be strengthened. (See Recommendation Nos. 1 and 8)
9. Meter reading practices are consistent with Commission rules and tariffs with three exceptions. Estimated bills have been rendered for reasons other than those allowed by Arizona Administrative Code (A.A.C.) R14-2-409.5. Specific action is not taken to obtain an actual meter reading after two consecutive estimates which is a violation of A.A.C. R14-2-409.3. Additionally, curbed meter readings violate R14-2-408.A, which requires the actual reading of a meter on a monthly basis. However, given that customers on Master Route 3 whose meter readings were curbed received appropriate, if not generous, refunds, the existing remedy appears to be symmetric with the harm incurred and, therefore, no penalties are recommended. (See Recommendation No. 8)
10. The curbed meter reading and overbilling problems identified in 2005 are not indicative of a systemic or pervasive problem with AAWC usage estimation and billing processes; however, the billing exceptions criteria used by the Company was too broad to effectively detect either the underbilling (July and August bills) or overbilling (September) problems in Arizona. (See Recommendation No. 9)
11. The Company does not routinely adjust a customer's account if the field order generated as a result of working the billing exceptions report confirms that the high bill was based on a correct actual read and the prior meter reading was reported as an actual meter reading.
12. The Company's inability to identify the problem, and the cause of the problem, on a timely basis resulted in dissatisfaction among those Arizona customers who called the call center with questions regarding their high bill following the two months of low bills based on the curbed meter readings. (See Recommendation Nos. 10 and 11)
13. AAWC has taken action in response to the identified usage estimation and billing-related problems to help prevent these problems from re-occurring; however, these actions have not at this time resulted in the development of red flags or early warning systems to identify potential problems on a more timely basis. (See Recommendation No.11)

B. Findings and Conclusions (Continued)

14. Billing practices are generally consistent with Commission rules and tariffs; however, accounts with consecutive estimates are not reported as billing exceptions until a customer has received five consecutively estimated bills. This practice increases the likelihood that AAWC is not complying with the A.A.C. R14-2-409.3. requirement that after the second consecutive month of estimating the customer's bill for reasons other than severe weather, the Company must attempt to secure an actual meter reading. (See Recommendation No. 5)
15. Usage estimation and billing practices are generally reasonable and consistent with industry standards. (See Recommendation No. 12)
16. Usage estimation calculation practices result in reasonably accurate estimated bills. (See Recommendation No. 14)
17. While customer service and billing training programs appear to be appropriate and comprehensive, customer complaints related to interactions with American Water customer service representatives indicate that the training programs may not be effective. (See Recommendation No. 13)
18. American Water's use of a consolidated call center and billing department for all American Water operating companies is a reasonable business practice; but this practice contributed to delays in identifying the meter reading and billing problems and responding to the Arizona customers impacted by the 2005 meter reading and billing problem. (See Recommendation No. 10)
19. The process used to provide refunds to customers whose meter readings were curbed ultimately resulted in appropriate, if not generous, refunds to customers on Master Route 3.
20. Actions taken by the Company to ensure that refunds were provided to customers who received bills based on curbed meter reading on routes other than Master Route 3 were not sufficient. (See Recommendation No. 15)
21. Adjustments made to bills based on estimated usage when actual meter readings are obtained are properly calculated, including the assignment of consumption to the appropriate rate tiers.

C. RECOMMENDATIONS

This report makes the following recommendations:

Meter Reading

1. Require AAWC to define and implement a "low use" limit in the meter reading system based on the previous month's consumption of the individual customer within six months of a decision in this matter. (Refers to Finding No. 8)
2. Require AAWC to develop a report which lists the number of over-rides entered by individual meter readers by cycle on a daily basis and implement a procedure whereby this report is reviewed on a daily basis by supervisory personnel. This process should be completed within six months of a decision in this matter. (Refers to Finding No. 8)
3. Require AAWC to establish a "no tolerance" policy for the curbing of meter reads and then ensure that meter readers are aware of that policy. In addition, require AAWC to emphasize the importance of actual meter readings in generating accurate customer bills when training its meter reading staff. (Refers to Finding No. 1)
4. Require AAWC to complete a cost-benefit study related to the implementation of an automated meter reading system to assure accurate actual meter readings. Require the Company to provide the results of this study to the Commission within twelve months of a decision in this matter. (Refers to Finding No. 7)
5. Require AAWC to change its billing exceptions parameters for Arizona customers so that accounts are reported following two consecutive estimates rather than five consecutive estimates. (Refers to Finding Nos. 6 and 14)
6. For the next two years, require AAWC to report to the Commission Staff the results of its monthly quality control meter reading inspections. Require the Company to report the likely number of customers affected, and steps taken to remedy the problem in the event the Company determines that meter readings have been curbed. (Refers to Finding No. 2)
7. Require AAWC to continue to disable the key on the hand held meter reading device showing the customer's previous meter reading. (Refers to Finding No. 4)

Billing and Estimation

8. Require AAWC to change its process for coding the reason for estimated bills to eliminate "no code" as an option. In this way, both the Company and Commission can be assured that bills are being estimated only for reasons specifically allowed in Commission rules. Require this change to be completed within three months of a decision in this matter. Given the uncertainty as to whether estimated bills are being rendered only for the specifically allowed reasons, require the Company to provide Commission Staff with quarterly reports of the number of estimated bills rendered by reason code for the next two years. (Refers to Finding No. 9)

C. Recommendations (Continued)

9. Require AAWC to adjust the parameters on the high / low billing exceptions test to customer-specific parameters based on current period amounts billed for water services compared to the billing for the same period prior year (or prior month) at the same premises. Require this change to be completed within six months of a decision in this matter, with documentation of the change then provided to the Utilities Division, Consumer Services Chief. (Refers to Finding No. 10)
10. Require AAWC to evaluate its processes and related systems of internal controls to ensure that promises made to call customers back once the requested task is completed are kept. Require this change to be completed within six months of a decision in this matter, with documentation of the change then provided to the Director of the Utilities Division. (Refers to Finding No. 12 and 18)
11. Require AAWC to define and develop a report of the number and type of customer complaint calls by day for each service area (Sun City, Sun City West, Agua Fria, etc.) in the AAWC franchise territory. This change should be completed within twelve months of a decision in this matter. (Refers to Finding Nos. 12 and 13)
12. Require AAWC to simplify the "cancel / re-bill" procedure. This will ensure that more accurate usage information is retained and made available upon which to calculate estimated bills. This change should be completed within twelve months of a decision in this matter. (Refers to Finding No.15)
13. Require American Water to train its call center representatives to recognize when billing complaints may be the result of curbed meter readings. (Refers to Finding No. 17)

Refunding Methodology and Process

14. Require AAWC to automate the billing adjustment process. The current process is a manual process and is more prone to calculation error than a process programmatically embedded in the customer billing system. Automating this process may be necessary if the parameters of the billing exceptions process are tightened and more bills reported as billing exceptions. This change should be completed within six months of a decision in this matter. (Refers to Finding No. 16)
15. Require AAWC to programmatically identify and issue refunds to those customers not located in Master Route 3 using the same program applied to Master Route 3 customers. (Refers to Finding Nos. 3 and 20)
16. Refunds are not generally made for exception-reported accounts if both the prior and current reads are reported as actual reads and the current read is confirmed as accurate. This practice is appropriate except in those instances in which the prior month "actual" meter reading has been curbed or mis-read.

**ARIZONA AMERICAN WATER COMPANY
METER READING AND BILLING INVESTIGATION
FINAL REPORT**

A. INTRODUCTION

On November 1, 2005, the Utilities Division of the Arizona Corporation Commission (ACC or Commission) issued a request for proposal (RFP) to assist the Utilities Division Staff (Staff) with its inquiry into the usage estimation, meter reading, refunding and billing practices of Arizona-American Water Company (AAWC or Company). Staff selected the Barrington-Wellesley Group, Inc. (BWG) to provide the requested consulting services. Contract No. 251 between the Commission and BWG was executed on January 27, 2006.

B. BACKGROUND

AAWC is an Arizona utility providing water service to approximately 100,000 customers in Arizona. AAWC is a subsidiary of American Water Works Company whose ultimate parent is RWE AG, a company organized under the laws of the Federal Republic of Germany. AAWC consists of ten water and wastewater districts in Arizona: Sun City, Sun City West, Surprise, Bullhead City, Lake Havasu City, Tubac, Paradise Valley and the community of Anthem Arizona. All of AAWC's assets and operations (except the Paradise Valley division) were purchased in 2002 from Citizens Utilities Company.

In late August 2005 the Company began to receive calls from customers located in the Sun City, Sun City West, and Agua Fria districts regarding unusually high water bills. The high bills generally followed two months of lower than normal bills. This situation resulted from one or more meter readers entering false low meter readings in July and August. Over the next few months, AAWC personnel and Commission Staff worked closely together to ensure that customers were properly informed of the meter reading and billing problem and that an appropriate solution to this problem was implemented. Customer communications included property owner and neighborhood association meetings, newspaper articles, and announcements on the Company's website. AAWC also established a hotline for customers to call if they thought they may be due a refund as a result of what was characterized by the Company as a "mis-read" problem. From September 15 through December 31, 2005, 1,667 calls were made to the hotline. Customers were also informed of their right to contact the Commission and file a formal complaint. The Commission received 167 complaints from customers of AAWC related to these high bills and related matters.

These actions, however, did not provide complete assurance that the full scope of the meter reading and billing problem was identified and that all required customer refunds were made. As a result, the Commission issued the abovementioned request for proposal on November 1, 2005.

Refunding

For many utilities, inaccurate meter readings, whether accidental or deliberate, are normally corrected in subsequent periods when an accurate actual meter reading is obtained. In jurisdictions with declining block rate structures, this correction, while potentially creating

B. Background (Continued)

a hardship to individual customers faced with the payment of an unexpected high utility bill, does not result in a potential overbilling to the customer. In some instances, a pattern of low reads followed by high reads may work to a customer's advantage by billing more consumption at a lower-priced rate tier.

This is not the case with AAWC. The water tariffs for AAWC's Agua Fria, Anthem, Havasu, Mohave, Paradise Valley, Sun City, Sun City West and Tubac Water Districts all reflect an inverted rate structure. That is, the more water consumed, the higher the rate charged. As a result, bills based on inappropriately low meter readings in one or more consecutive months may result in too little consumption being billed at the lower rate tiers in the preceding months and too much consumption billed at the higher rate tiers in the subsequent month. This overbilling should result in a refund to the affected customer.

Inverted rate structures are common in jurisdictions, like Arizona, which encourage water conservation. In California, for example, the California Public Utility Commission (CPUC)¹ reports that there has been a "significant growth in the use of increasing block rates in the early 1990's, in direct response to the severe drought," and that by 2003 "approximately half of the California water ratepayers had increasing block rates." The increased use of conservation-based rate structures in California occurred exclusively among municipal water utilities. Unlike Arizona, among the investor-owned water utilities regulated by the CPUC (that is, water utilities similar to AAWC), increasing block rates are still "virtually non-existent."

Exhibit I presents tariff rates for residential customers served by 5/8-inch water meters for several AAWC water districts as examples of inverted rate structures.

Exhibit I
Tiered Water Rates
Residential Customer Example

| District | Agua Fria | Anthem | Sun City | Sun City West |
|----------------------------------|-------------|-------------|-------------|---------------|
| Tier One | | | | |
| Commodity Rate per 1,000 Gallons | \$1.38 | \$1.13 | \$0.72 | \$0.85 |
| Upper Limit (Gallons) | 4,000 | 4,000 | 4,000 | 4,000 |
| Tier Two | | | | |
| Commodity Rate per 1,000 Gallons | \$2.06 | \$1.70 | \$1.10 | \$1.285 |
| Upper Limit (Gallons) | 13,000 | 18,000 | 18,000 | 15,000 |
| Tier Three | | | | |
| Commodity Rate per 1,000 Gallons | \$2.487 | \$2.04 | \$1.316 | \$1.551 |
| Upper Limit (Gallons) | Over 13,000 | Over 18,000 | Over 18,000 | Over 15,000 |

As a result of the Company's inverted rate structure, the pattern of two low meter readings followed by a high meter reading experienced in 2005 resulted in the overbilling of AAWC

¹ See CPUC December 15, 2005 Water Action Plan.

B. Background (Continued)

customers whose consumption in the month of the high bills was charged a Tier Two or Tier Three rate when their consumption would otherwise have been billed at a Tier One or Tier Two rate.

At the time the RFP was prepared, AAWC had refunded approximately \$34,000 to customers rendered bills based on curbed meter readings. These amounts represent only a fraction of the total amounts eventually refunded. The refund process was substantially completed by the end of 2005. At that point, the Company had issued 8,988 refunds to residential customers totaling \$271,395 for the period July 2005 through December 2005. This compares to 1,882 refunds to residential customers totaling \$20,839 for the period January 2005 through June 2005. **Exhibit II** summarizes refunds made by month for the two adjustment codes most commonly used by the Company to record refunds made due to meter reading and billing problems.

Exhibit II
Summary of Residential Billing Adjustments / Refunds
2005

| Month | "Misread" (CRMR1) | | "Goodwill" (CRGW1) | | Total | |
|---------------|-------------------|-------|--------------------|-------|------------------|---------------|
| | Amount | Count | Amount | Count | Amount | Count |
| December 2005 | \$7,547 | 139 | \$36,440 | 858 | \$43,987 | 997 |
| November | \$8,402 | 166 | \$99,585 | 3,771 | \$107,987 | 3,937 |
| October | \$10,844 | 261 | \$73,027 | 2,124 | \$83,872 | 2,385 |
| September | \$7,601 | 667 | \$1,925 | 63 | \$9,526 | 730 |
| August | \$19,019 | 328 | \$1,736 | 85 | \$20,755 | 413 |
| July | \$4,865 | 510 | \$403 | 16 | \$5,268 | 526 |
| June | \$4,628 | 559 | \$199 | 9 | \$4,827 | 568 |
| May | \$2,621 | 271 | \$70 | 4 | \$2,691 | 275 |
| April | \$2,559 | 386 | \$108 | 7 | \$2,667 | 393 |
| March | \$5,807 | 289 | \$140 | 8 | \$5,947 | 297 |
| February | \$2,057 | 157 | \$117 | 3 | \$2,174 | 160 |
| January 2005 | \$2,316 | 185 | \$217 | 4 | \$2,533 | 189 |
| TOTAL | | | | | \$292,234 | 10,870 |

B. Background (Continued)

BWG recalculated the amounts overbilled to the group of 160 customers who filed informal complaints with the Commission related to the 2005 meter reading and billing problem. The dollar amount of the refunds made to this group of customers was approximately four times greater than the amount that should have been refunded based on our calculation. In fact, our calculation was conservative and most likely erred in favor of the customers.

We also specifically analyzed monthly bills provided by two customers going back to 2002 to determine whether the meter reading and billing problem existed in prior periods and whether total refunds due these two customers were more or less than the refund provided based on the 2005 problem. One customer was offered a credit of \$24.87 compared to the BWG-calculated refund due of \$2.99 going back to December 2002. The other customer was offered a credit of \$69.94 compared to a BWG-calculated credit of \$9.99 going back to January 2002. Neither account history indicated that AAWC was manipulating the meter reading and billing process to take advantage of the inverted rate structure.

In addition, BWG reviewed consumption patterns for three non-Master Route 3 meter reading routes which were read in 2005 by the meter reader primarily responsible for the later meter reading and billing problems. We identified 112 accounts which appeared to have curbed meter readings. No refunds were due to approximately one-half of these accounts because the curbed reads did not result in consumption billed in a higher rate tier in the subsequent month. Our analysis showed that fifty-eight (58) accounts were overbilled by a total of \$72.68, an average of \$1.25 per customer. AAWC made refunds totaling \$446.33 to fifteen (15) of these customers for meter read curbing and billing problems.

Meter Reading

AAWC uses 14 employees to read meters each month. The assignment of meter readers by location is summarized in **Exhibit III** on the following page. Meter readers are expected to complete each assigned route on the date scheduled. If a meter reader realizes that he or she will not be able to complete the assigned route, he will call the senior meter reader who will then assign another meter reader to assist with the completion of the route. It is not acceptable practice at AAWC to upload unfinished routes for billing. However, it was revealed to Staff in an initial meeting with AAWC on this matter that occasionally bills were estimated when meter readers could not finish routes.

B. Background (Continued)

Exhibit III

Meter Readers by Location

| Location | Metered Connections | Number of Meter Readers (2005) | Number of Meter Reading Days per Month | Reads per Day per Meter Reader |
|---|---------------------|--------------------------------|--|--------------------------------|
| Sun City / Sun City West / Agua Fria / Surprise | 75,146 | 7 | 20 | 537 |
| Paradise Valley | 4,633 | 1 | 20 | 231 |
| Anthem | 6,482 | 1 | 20 | 324 |
| Bullhead City | 15,127 | 2 | 2 | 378 |
| Lake Havasu | 1,462 | 2 part-time | 4 | 182 |
| Tubac | 503 | 1 part-time | 4 | 126 |

The Company has several internal controls in place to identify and correct misread meters. These include the use of exception reports, the monthly rotation of meter readers, field audits of meter readers, and customer complaints. While each of these can play an effective role in preventing meter reading problems, the most critical to detecting problems early enough to prevent incorrect billings is the field audits.

There are two types of exception reports – field reports and office reports. The field reports are issued based on field meter reading usage levels as the readings are processed prior to billing. The office reports are issued based on a gross bill dollar amount as the bills are created. The AAWC field report exception parameters do not allow for the detection of low readings except when the reading is less than the previous read and only report a high read if it is more than 400 percent of the base use of the account. The false reads entered by the meter reader in July and August 2005 were generally only 2 to 5 units over the previous read, and thus no exception reported. The office condition report limits are similarly ineffective in detecting this type of misread. The low limit is set in the \$5.00 to \$10.00 range and the high limit is \$500.00.

Normally, the Company rotates the meter readers assigned to read master reading routes (master routes) each month. However, as shown in **Appendix C**, meter readers were assigned to read the same master route in both July and August 2005. This occurred because a new meter reader was being trained and, at that time, the practice was to have the new meter reader read the same master route for two consecutive months. When this happens, all meter readers read the same master route for two consecutive months.

If meter reading routes had been rotated monthly, the customer would still have received one bill that was too low and one bill that was too high for those meter readings curbed by a meter reader. However, the likelihood that a billing based on an actual read in the month following an inappropriately low meter reading would result in consumption billed at a higher rate tier is reduced with only one month's low meter reading.

B. Background (Continued)

During most of 2005, AAWC did not have a formal field audit program in place. The audits completed were done as "re-read service orders." These orders were normally the result of exception reports (noted above) or customer complaints. The audits did, over time, identify the excessive number of misreads being entered by meter readers who were curbing meter readings and ultimately resulted in their dismissal. Curbing refers to the practice of intentionally falsifying a meter read, including but not limited to, entering false reads based on a customer's historical data.

Customer complaints identify problems after-the-fact, when it is too late to effectively correct the root cause. Remedial action can be taken but the customers can never be completely satisfied. For AAWC, the complaint process became the principal control on their meter readers. By the time the number of complaints caused enough re-read field orders for the misread problem to be apparent, the customers were already being billed with high usage bills – and complaining vigorously.

Despite the system of internal controls in place in 2005, the Company had recurring problems with three meter readers entering meter reads into their handheld meter reading units without actually having read the meter - a practice commonly referred to as "curbing" meter reads. The ability for a meter reader to enter undetected false reads into the handheld device was enabled by several factors. First, meter readers were able to see the previous month read on the handheld device. Second, both meter reading and billing exception criteria were not set to effectively detect low reads; this was due in part to avoid the investigation of legitimate low or no usage reads common in areas in which customers may only reside part-time in Arizona. Third, there was no system in place to identify over-rides entered by the meter reader; that is, repeated attempts to enter an acceptable meter reading that may suggest the curbing of meter readings. Finally, the quality control system in place at the time did not include the field verification of meter readings if not requested by the billing department or in response to a customer complaint.

Usage Estimation and Billing

If AAWC does not obtain an actual meter reading, American Water's customer information system will generate an estimated bill based on its estimate of consumption used by the customer during the billing period. Consumption is estimated by multiplying consumption per day from the same billing period in the prior year times the number of days in the current billing period. If information is not available for that premises from the same month prior year, the prior month's consumption per day will be used in the calculation of the estimate.

Exhibit IV presents the number of estimated bills by year from January 2002 through September 2005. The high number of estimates in 2002 was due to issues associated with the conversion of AAWC's billing system to American Water's billing system in January 2002. The number of estimated bills per year has been trending down since 2002. However, the bills issued in 2005 based on curbed meter readings are not included in these totals since the curbed readings were reported as actual meter readings.

B. Background (Continued)

The Company clearly identifies estimated bills on customers' bills as required by Arizona regulations, except in cases where curbing occurs resulting in an estimated read rather than an actual read.

Exhibit IV
Estimated Bills by Year

| Number of Estimated Bills by "No Read Code" | 2002 | 2003 | 2004 | 2005 ² |
|--|--------|-------|-------|-------------------|
| No access | 426 | 222 | 370 | 526 |
| Dangerous Animal | 371 | 100 | 85 | 111 |
| Full of Water | 52 | 85 | 275 | 270 |
| No code | 36,707 | 9,454 | 8,998 | 4,243 |
| Total Number of Estimates | 37,556 | 9,861 | 9,728 | 5,150 |
| Percent of Bills Estimated | 4.1% | 0.9% | 0.8% | 0.5% |

Subsequent to the acquisition by American Water of the Arizona water properties of Citizens Utilities, the call center and billing functions of AAWC were consolidated with call center and billing operations for all American Water utility operating companies in Alton, Illinois. A second customer contact center was later opened in Pensacola, Florida. The redundancy from having two call centers provides assurance that the Company's responsiveness to events such as storms that may shut down a single call center will not cripple the Company's ability to answer customer calls. In addition, each call center has redundant telephone lines to ensure that line cuts will not cripple an individual call center. This redundancy, however, did not prevent the two call centers from experiencing IVR-related problems which resulted in 45 second delays before customers were able to connect a customer service representative in May 2006.

These two call centers handle all incoming telephone calls from American Water's four million customers. Within the call center, call center representatives are organized into work groups based on regions. Call center technology directs customer calls to the appropriately skilled or trained employees based on telephone numbers dialed and/or integrated voice response options. Calls originating from Arizona customers are identified by the unique 800 number listed on Arizona customer bills and routed to a particular work team. This team is comprised of 16 to 20 customer service representatives.

In the event that regional work teams are busy, calls will rollover to other call center employees to achieve the Company's objectives of answering 80 percent of all calls within 30 seconds and having no more than five percent of calls abandoned. These two performance measures are customary for call centers and the particular standards in place are consistent with industry practices.

² Through September 2005

B. Background (Continued)

In early 2005, American Water significantly reduced the size of its contact center staff in anticipation of productivity improvements resulting from the implementation of an integrated voice response (IVR) system. Actual experience proved that the expected productivity improvements were significantly overstated. As a result, during much of 2005 the Company failed to achieve its customer service standards. In September 2005, when Arizona customers began to receive their high water bills, American Water answered only 56 percent of incoming calls within 30 seconds, far below its goal of 80 percent within 30 seconds. While the measurement and reporting of call center information did not identify results by state in 2005, it is likely that Arizona customers did in fact experience delays in reaching call center customer service representatives as reported in many complaints filed with the Commission.

In addition, many AAWC were dissatisfied with the response provided by the American Water customer service representatives when the call was answered based on the review of customer complaints as reported in **Appendix B, Customer Complaint Summary**.

In mid-2005, American Water hired an Operations Manager for the Alton call center. This individual was charged with addressing call center workforce scheduling issues to ensure the call center achieves its performance objectives. This task is complicated by the number of time zones in which American Water operates. In addition, part-time employees, the use of which is a common practice in effectively and efficiently managing call center performance, are restricted to fifteen percent of the workforce based on a collective bargaining agreement.

Exhibit V below summarizes call center performance by month since January 2005.

B. Background (Continued)

Exhibit V
Call Center Performance

| Month | Percent Answered Within 30 Seconds | Average Percent Abandoned After 30 Seconds | Average Speed of Answer (sec) |
|----------------|------------------------------------|--|-------------------------------|
| January 2005 | 76.85% | 2.52% | 28.04 |
| February 2005 | 72.05% | 2.22% | 28.69 |
| March 2005 | 78.03% | 1.98% | 25.02 |
| April 2005 | 53.7% | 5.71% | 65.87 |
| May 2005 | 78.69% | 2.21% | 27.22 |
| June 2005 | 78% | 2.40% | 29.15 |
| July 2005 | 76.66% | 2.53% | 40.66 |
| August 2005 | 45.68% | 3.2% | 88.67 |
| September 2005 | 55.87% | 4.92% | 69.19 |
| October 2005 | NA | NA | NA |
| November 2005 | NA | NA | NA |
| December 2005 | NA | NA | Na |
| January 2006 | 87.02% | 4.33% | 16.25 |

American Water has a single billing department which is located in Alton, IL, in the same building as the call center. There are two billing representatives assigned to work Arizona accounts exclusively. Required billing adjustments for Arizona customers identified by call center representatives are sent to these two billing representatives to be worked. At the time the significant customer-reported billing problems began in 2005, one of the two billing representatives was new in the position. In addition, the American Water billing department was well below its forecasted staffing level in 2005; this shortage of billing representatives was compounded by the redeployment of billing department personnel to the call center to assist with incoming customer calls. This shortage of personnel may have contributed to the fact that only four of twenty-two customers included in the sample tested by BWG had adjustments made to their accounts based on likely curbed meter readings in earlier months in 2005 in those routes read by the meter reader dismissed for curbing meter readings in July and August 2005. Some of the remaining eighteen accounts not adjusted were possibly overbilled as a result of curbed meter readings.

B. Background (Continued)

On a daily basis, the billing department works customer information system-generated billing exceptions reports; these reports identify accounts failing billing high/low parameters as well as for other reasons, including excessive consecutive months estimated bills. The billing exception parameters in place result, however, in residential customer bills being exception-reported only if the bill amounts were less than \$10 or more than \$500. Setting the exception parameters at these levels meant that many billing exceptions related to the meter reading problems occurring in Arizona in 2005 were likely not reported as billing exceptions.

Consequently, in 2005, Arizona meter reading and billing problems were not readily and easily recognized as widespread problems needing a specific solution. Since this problem surfaced in 2005, American Water has made a number of changes (see Meter reading Finding No. 4 below) in its processes which are designed to ensure these problems do not reoccur, or if they do, will be detected on a more timely basis, but with one important exception: AAWC local management-requested changes to billing exception parameters have not been implemented by American Water's billing department.

Compliance with Arizona Rules and Regulations

AAWC is required to comply with Arizona rules and regulations related to meter reading and billing. These regulations are summarized in **Exhibit VI**. Rules and regulations applicable to water service included as part of the tariffs for the individual AAWC water districts are consistent with the provisions of the Arizona Administrative Code cited below.

Exhibit VI Arizona Meter Reading and Billing Regulations

| Regulation Citation | Description |
|------------------------------------|--|
| R14-2-408. Meter Reading | Each meter shall be read monthly on as close to the same day as practical |
| R14-2-409. Billing and Collections | Bill monthly. Meter readings scheduled for periods not less than 25 days or more than 35 days |
| | If unable to read the meter, consumption estimated based on the following: <ul style="list-style-type: none">◦ Usage during same month prior year.◦ Usage during preceding month |
| | After the second consecutive month of estimating the customer's bill for reasons other than severe weather, attempt to secure an actual meter reading |
| | Estimated bills issued only under the following conditions: <ul style="list-style-type: none">◦ Failure of customer to provide meter reading card◦ Severe weather◦ Dangerous condition or no access provided |
| | Each bill based on an estimate is indicated as such |

B. Background (Continued)

Meter reading practices are generally consistent with these Commission rules and tariffs with three exceptions. Estimated bills have been rendered for reasons other than those allowed by Arizona Administrative Code (A.A.C.) R14-2-409.5. Specific action is not taken to obtain an actual meter reading after two consecutive estimates which is a violation of A.A.C. R14-2-409.3. Additionally, curbed meter readings violate R14-2-408.A, which requires the actual reading of a meter on a monthly basis.

Appendix A summarizes meter reading and billing practices in place and / or required by regulations in several other states. BWG was unable to identify any water utilities with tariff provisions or rules and regulations that specifically mention the added importance of obtaining actual meter readings due to inverted rate structures.

C. GOAL OF INVESTIGATION

The three objectives of this investigation were to:

1. Determine if there is a systemic and/or pervasive problem with Arizona-American Water Company in terms of meter reading and rendering of accurate customer bills.
2. To the extent that the problem is determined not to be pervasive for the entire system,
 - a. Determine whether meter reading curbing is isolated to a specific instance or instances;
 - b. Identify the timeframe(s) in which meter reading curbing and/or other errors occurred; and,
 - c. Determine whether the remedy applied is symmetric with the harm incurred.
3. Determine whether the methods used to refund amounts overbilled are reasonable.

D. EVALUATIVE CRITERIA

BWG used the following criteria to evaluate the meter reading, billing and estimation, and refunding practices of Arizona American Water:

Meter Reading

1. Are the 2005 meter reading exceptions isolated or indicative of systemic or pervasive problems with AAWC meter reading processes?
2. Has AAWC taken appropriate action in response to the identified meter reading problems?
3. Are meter reader training programs effective?
4. Does the relationship between AAWC and its affiliates help or hinder AAWC meter reading practices?
5. Are AAWC meter reading practices reasonable and consistent with industry standards?

D. Evaluative Criteria (Continued)

6. Are AAWC meter reading practices consistent with Commission rules, AAWC tariffs, and Commission decisions?

Billing and Estimation

1. Are the usage estimation and billing problems identified in 2005 isolated or indicative of a systemic or pervasive problem with AAWC usage estimation and billing practices?
2. Has AAWC taken appropriate action in response to the identified billing and estimation problems?
3. Do usage estimation practices result in reasonably accurate estimated bills?
4. Are billing adjustments made properly, including the assignment of consumption to the appropriate rate tiers?
5. Are billing and estimation training programs effective?
6. Does the relationship between AAWC and its affiliates help or hinder AAWC billing and estimation practices?
7. Are AAWC usage estimation and billing practices reasonable and consistent with industry standards?
8. Are AAWC billing and estimation practices consistent with Commission rules, AAWC tariffs, and / or Commission decisions?

Refunding

1. Have refunds been made to all customers who were overbilled as a result of the 2005 meter reading and billing problems?
2. Were the refunds made to customers who were overbilled appropriate?
3. If the 2005 meter reading and billing problems were not isolated, have all required refunds been made?

E. SCOPE AND METHOD OF ANALYSIS

BWG completed the following activities to achieve the objectives of this investigation and answer the questions posed by the above evaluative criteria.

Meter Reading

1. Reviewed the meter reading system of AAWC from the creation and scheduling of meter reading routes to the processing and transfer of readings for billing.
2. Interviewed meter readers, the senior meter reader, and field customer service personnel.
3. Interviewed back office and customer service personnel responsible for processing meter reading data and correcting meter reading problems.

E. Scope and Method of Analysis (Continued)

4. Interviewed the local General Manager and the Customer Service Superintendent.
5. Interviewed individuals responsible for meter reading performance for Flagstaff and Tucson, Arizona.
6. Performed field inspections of meter reading operations in Meter Route 3.
7. Reviewed meter reading schedules, exception reports and exception processing.
8. Reviewed the meter reader training process and materials.
9. Reviewed trends in the number of estimated bills over the last four years.
10. Compared AAWC meter reading performance to utility industry benchmarks.

Billing and Estimation

1. Reviewed the ACC file of AAWC-related customer complaints from 2005.
2. Interviewed call center management and call center representatives, including employees with responsibility for Arizona customers.
3. Interviewed billing department management and billing representatives with responsibility for Arizona customers.
4. Interviewed the Call Center liaison assigned to Arizona.
5. Interviewed the Call Center operations manager.
6. Reviewed bill estimation procedures.
7. Reviewed customer service representative training materials.
8. Reviewed call center performance reports.

Refunding

1. Determined whether the refund provided by the Company was more or less than the refund due the customer based on BWG calculation for all customers who filed complaints with the Commission related to this problem based on amounts billed and refunded in 2005.
2. Reviewed detailed billing history for two customers located on Eureka Trail, Surprise AZ (one since January 2002, the other since December 2002) and calculated the possible amount overbilled during this entire period due to meter reading problems.
3. Reviewed detailed consumption for three meter reading routes read by the meter reader primarily responsible for the July and August curbed meter readings to determine whether meter readings were curbed in prior periods and, if so, whether appropriate adjustments were made.
4. Interviewed billing department management and billing representatives with responsibility for Arizona customers.
5. Reviewed the Company's typical method of calculating refunds, including courtesy adjustments.

E. Scope and Method of Analysis (Continued)

6. Interviewed the American Water IT professional responsible for developing the program used, and reviewed the method used, to programmatically calculate and apply individual customer refunds as a specific remedy to the Arizona meter reading problem.

F. KEY FINDINGS AND CONCLUSIONS – METER READING

1. The recurring meter reading problems identified in 2005 suggest that the Company did not properly emphasize the importance of actual meter readings in generating accurate customer bills when training and managing its meter reading staff, especially given the Company's inverted rate structure.
 - a. Curbed meter reads persisted despite monthly counseling sessions and disciplinary actions.
2. The Company should have taken more timely action in response to identified meter reading problems in 2005.
 - a. The Company fired three meter readers in 2005 for curbing meter readings.
 - (i) Disciplinary action was taken against one meter reader in three consecutive months beginning in March 2005. This employee was ultimately fired in June 2005.
 - (ii) Disciplinary action was taken against a second meter reader in June and August 2005. This meter reader was ultimately dismissed in September 2005. This meter reader was primarily responsible for the curbed meter readings in July and August 2005 that resulted in the amounts overbilled.
 - (iii) The third meter reader was dismissed in September 2005 after having been counseled for misreads in June (and only June), the month the employee was hired.
 - b. American Water's Employment Policies and Practices dated October 1, 1993, provide for the discharge for a first offense related to "falsifying personnel or other Company records, dishonesty or misrepresentation including intentionally providing false, misleading or incomplete information to/for the Company."
 - (i) This policy appears to indicate that the Company has zero tolerance for actions such as falsifying meter readings.
 - (ii) The disciplinary action taken by the Company in regard to the meter readers who curbed meter readings in 2005 was inconsistent with this policy.
 - c. The Company did not identify performance issues that resulted in disciplinary actions in July 2005 for the second meter reader, even though it is now clear that this employee was curbing meter readings in July as well.

F. Key Findings and Conclusions – Meter Reading (Continued)

- d. The Company did not institute its meter reading quality control process of auditing reported meter readings by field-verifying randomly selected meter readings until January 2006 even though it knew in 2005 that it had recurring problems with meter readers.
- 3. While the majority of the amounts overbilled occurred as a result of curbed meter readings in July and August 2005 in Master Route 3, meter readings were curbed in prior months as well in routes read by this same meter reader in the Sun City, Sun City West, and Agua Fria districts.
 - a. The Company's practice of rotating meter readers, while not sufficient in itself to prevent the curbing of meter reads, mitigated to some degree the billing impact of curbed meter reads in months prior to July 2005.
 - b. Twelve percent of the total number of refunds made to residential customers in 2005 were made prior to July 2005.
 - c. Billed usage reports reviewed for selected meter reading cycles in 2005 indicated that the problems were not widespread throughout the systems.
 - d. A few of the Commission complaints pertaining to AAWC usage estimation, billing and refund issues refer to pre-July 2005 meter reading and billing issues.
 - e. BWG reviewed consumption histories for three meter routes (other than Master Route 3) read by the meter reader primarily responsible for the curbed July and August 2005 meter readings for prior months in 2005.
 - (i) We identified 112 accounts which appeared to have curbed meter readings.
 - (ii) Approximately one-half of these accounts did not require credits since the curbed reads did not result in consumption billed at higher rate tiers.
- 4. AAWC management ultimately took action in 2005 to help prevent these problems from re-occurring.
 - a. Terminated the meter readers responsible for the curbed meter readings.
 - b. Removed the "previous read" field from the handheld units.
 - c. Initiated a program to clean meter boxes to provide better access to meter dials.
 - (i) The individual responsible for meter reading at another Arizona city indicated that dirty meter boxes was a constant problem as well. This City's meter reading department relies on individual meter readers to clean the meter boxes while reading meters rather than having a formal program to clean meter boxes off cycle.
 - d. Developed and implemented a Meter Reader Manual.
 - e. Began a quality control program by the Senior Meter Reader.
 - (i) Ten percent audit (visual inspection) of reads in selected routes.
 - (ii) Approximately 300 meters re-read per month per meter reader.

F. Key Findings and Conclusions – Meter Reading (Continued)

- f. Requested that American Water high bill exception reporting capabilities available in the Company's customer information system be modified to allow for different parameters by state; that is, which would allow for more stringent parameters in Arizona. American Water's CIS currently uses the same exception reporting parameters for all its operating companies.

(In our opinion, it is reasonable to have tighter exception parameters in jurisdictions with inverted rate structures.)

- g. Eliminated its practice of not rotating meter reading routes when training new meter readers.
- 5. Meter reader training programs are reasonably effective; however, meter reading procedures have only recently been documented in a formal meter reader training manual.
 - a. Training provided to meter readers is thorough and up-to-date; however, the lack of a formal meter reader training manual during the audit period increased the risk of inconsistent meter reading practices.
 - (i) An American Water Internal Audit completed in 2005 identified the need for a meter reader training manual. Management agreed with this finding and training materials were completed before the start of this investigation.
 - b. Training programs are provided on a timely basis, especially for new employees.
 - c. Based on BWG's review of training records, all meter reading personnel completed the required training.
 - d. Interviews with two meter readers and the senior meter reader confirmed the effectiveness of meter reading-related training programs.
 - e. Until the recent development of a Meter Reader Training Manual, the meter reader training was primarily a hands-on, on-the-job training process.
 - 6. The relationship between AAWC and its affiliates has no adverse effect on AAWC meter reading practices; however, the same billing exception parameters are established for all American Water operating companies and may not meet the needs of AAWC.
 - a. The meter reading function is self-contained within AAWC and is not affected by relationships with affiliated companies.
 - b. There are no competing or conflicting meter reading-related objectives between AAWC and its affiliates.
 - c. The low and high bill parameters used to report billing exceptions were not effective in identifying AAWC's meter reading and billing problems and subsequent attempts by AAWC management to customize these parameters by state have been unsuccessful.
 - 7. AAWC meter reading practices are generally reasonable and consistent with industry standards.

F. Key Findings and Conclusions – Meter Reading (Continued)

- a. The meter reading to billing schedule allows for meter reads that could not be obtained on the day scheduled or are exception-reported following the processing of the meter reading to be re-read prior to billing.
- b. The processing of meter reads occurs over a 4 day bill cycle. The cycle begins with meters being read on day 1. Day 2 is a lag day used to complete unfinished routes. Day 3 is used to pull meter reads into billing batches, and Day 4 is bill calculation and mailing. Bills with exceptions may be held up to 3 days for correction.
- c. The number of AAWC meter readers, the number of meters read per day, and the time required to read daily meter reading routes are consistent with industry practices.
 - (i) Based on the Ascent Group 2005 Meter Reading Profiles and Best Practices study, the average number of meters read per meter reader per month in the water industry is 11,386. This compares to the 4,600 to 10,700 meters read per month per full-time AAWC meter reader.
 - (ii) In the Sun City, Sun City West, and Agua Fria Districts (including Surprise), meter readers average 537 meter reads per day. This compares to 126 to 378 in AAWC's other districts. Meter readers in Flagstaff and Tucson average 368 and 460 reads per day based on interviews with meter reading management personnel in those cities.
 - (iii) Meters are grouped into reading routes of approximately 400 to 600 meters. Each route is assigned to a "master route."
 - (iv) Each master route is scheduled to be read over 19 days each month. A master route typically requires that more than one individual route be read each day.
 - (v) At the end of the month, if there are available workdays, the readers are scheduled other work (cleaning meter boxes, meter maintenance, etc).
- d. AAWC's practice of monthly meter reader rotation, while temporarily in abeyance in the summer of 2005 while a new meter reader was being trained, exceeds common industry practices related to meter reader rotation.
 - (i) According to the Ascent Group 2005 Meter Reading Profiles and Best Practices study, almost 70 percent of the utilities surveyed that do not use AMR or contractors for meter reading do not rotate meter reading routes.
- e. The number of meter reading supervisors and support personnel are adequate when fully staffed and the supervisor does not have to substitute as a meter reader.
 - (i) According to the Ascent Group 2005 Meter Reading Profiles and Best Practices study, the average span of control in the water utility industry is one supervisor for every 11.8 meter readers.
 - (ii) In the Phoenix area, AAWC has one supervisor for seven meter readers.
- f. Meter reading system software and hardware, including related data transmission systems and the handheld devices used to read meters, represent common technologies used in the industry.

F. Key Findings and Conclusions – Meter Reading (Continued)

- (i) AAWC meter readers enter reads to a DAP PC9800 handheld unit using the Neptune Meter Reading System and Neptune Routemaps software to load and unload the handhelds.
 - (ii) The “Tempest” system (developed in-house) is used to transfer data to and from the host system. The host system is an ORCOM E-CIS program running on an AS-400 computer.
 - (iii) The most current meter reading technology used in the utility industry is automated meter reading (AMR); a technology investment typically justified through improvements in meter reading productivity and accuracy.
 - (iv) AWC is planning to deploy AMR devices in new areas served.
- g. Meter reading error rates for the first eight months of 2005 for the Agua Fria, Sun City and Sun City West water districts are about the same as water industry averages based on one study, but are below average based on a second study. However, AAWC error rates do not include the curbed readings in July and August 2005, which would increase reported error rates if included.
- (i) According to the Ascent Group 2005 Meter Reading Profiles and Best Practices study, the meter reading accuracy rate in the water utility industry is 99.77 percent. This compares to the AAWC’s accuracy rate of 99.72 percent.
 - (ii) According to the American Water Works Association-sponsored 2005 Benchmarking Performance Indicators for Water and Wastewater Utilities, the average number errors per 10,000 water bills is 19.4, with the organizations in the top twenty-five percent (or quartile) averaging 7.2 errors per 10,000 bills issued and organizations in the third quartile averaging 73.0 errors per 10,000 water bills issued. This compares to the error rate for the Agua Fria, Sun City and Sun City West water districts for the first eight months of 2005 of 27.6 errors per 10,000 meters read (based on information provided by the Company in its “Mis-Reads 2005” report).
 - (iii) Since refunds were issued without adjusting recorded meter readings by month in CIS, reported error rates in 2005 have been understated.
- h. Based on interviews with two meter readers and the senior meter reader, there are very few instances in which meter reads are “skipped.”
- (i) Most meters are accessible, being located in meter pits near the curbs.
 - (ii) Few meters are located in enclosed areas or behind locked gates.
 - (iii) The most common reason for skipped meter reads is construction debris over the meter box. In these instances, the customer has typically not yet moved in to the house.

F. Key Findings and Conclusions – Meter Reading (Continued)

- (iv) In addition, meter reads may be skipped due to hazardous conditions; in the Agua Fria, Sun City and Sun City West districts this most often means bees in the meter pits. In these instances, the meter reports the hazardous situation to the senior meter reader who arranges for the dispatch of a pest exterminator to eradicate the hazardous situation. These meters are then read the following day.
- (v) Each meter reader is equipped with a pump to remove water from the meter pit. BWG had a meter reader demonstrate the use of the pump in a meter pit in which the meter was covered with water.
- (vi) Meter readers are equipped with devices to clean meter dials, a common problem with the meter pits. BWG examined several meter pits noting evidence that the meter dials had recently been cleaned.
- i. American Water does not have automated tools to facilitate the efficient sizing of meter routes on an on-going basis.
 - (i) New master meter routes are formed from existing meter routes when new meter readers are hired.
 - (ii) AAWC's practice is to add a meter reader for each 8,000 customers added.
 - (iii) According to the Ascent Group 2005 Meter Reading Profiles and Best Practices study, only 37 percent of the utilities surveyed use route management software even though the users of this software report savings ranging from 10 to 20 percent in route efficiency, reduction of routes, and reduction of O&M expenses.
 - (iv) For a company the size of American Water (that is, four million customers nation-wide), it seems unusual that route scheduling software has not yet been widely deployed.
- j. AAWC deploys the following practices to ensure that actual meter readings are obtained.
 - (i) The senior meter reader reads individual routes as needed.
 - (ii) Meter readers assist other meter readers complete their assigned routes. The need to provide assistance is identified during the daily, morning meter reader meetings. Meter readers are instructed to call the senior meter reader during the day if scheduled meter routes can not be completed without assistance.
 - (iii) Overtime is worked as needed.
 - (iv) The window from meter reading to billing allows routes not completed on the date scheduled to be completed the following day without delaying billing.
- k. Based on interviews with two meter readers, door tags are left at premises in which access to the water meter is restricted.

F. Key Findings and Conclusions – Meter Reading (Continued)

- (i) In these instances, the meter reader will radio the senior meter reader who will arrange for someone to clear the dirt or debris, and the meter will be read later that day or the following day.
 - (ii) Neither meter reader could recall recent instances in which water meters were inaccessible for other reasons (not counting accessibility problems resulting from hazardous conditions such as bees in the meter pit).
 - (iii) When door tags are left, customers are notified that they will receive a bill based on estimated usage if the accessibility problem is not corrected. Customers are directed to correct the problem and call the Company to let them know the problem has been fixed. If customers call the Company within the billing window, a meter reader will be assigned to read the meter so the current bill can be based on an actual meter reading.
 - (iv) Company employees send “no access” letters to customers in the event of consecutive month’s estimates due to accessibility issues.
8. AAWC internal controls to ensure meter reading accuracy should be strengthened.
- a. Meter reading exception reporting parameters in place in 2005 (as opposed to billing exception reporting parameters which are discussed below) did not provide sufficient assurance that all instances of possible low or high usage which may be indicative of meter reading problems are identified and investigated.
 - (i) Low usage is not exception reported.
 - (ii) High usage is exception reported only if 400 percent greater than the base use for the account.
 - (iii) AAWC management intends to tighten its meter reading exception reporting parameters.
 - (iv) If the meter reading high- and low-exception reporting parameters had been tightened, the 2005 meter reading and billing problems may have been avoided (or detected earlier).
 - b. Another Arizona city’s meter reading department has an individual responsible for ensuring the accuracy of meter readings on a full-time basis.
 - (i) This individual compares current consumption to the average of the last three months and to the same month last year.
 - (ii) If current consumption differs by more than 25 percent (either more or less), a check read order will be issued and worked.
 - c. AAWC has no reports which list the number of over-rides entered by individual meter reader by cycle on a daily basis; consequently, this information is not available for review on a daily basis by supervisory personnel.

F. Key Findings and Conclusions – Meter Reading (Continued)

9. Meter reading practices are consistent with Commission rules and tariffs with three exceptions. Estimated bills have been rendered for reasons other than those allowed by Arizona Administrative Code (A.A.C.) R14-2-409.5. Specific action is not taken to obtain an actual meter reading after two consecutive estimates which is a violation of A.A.C. R14-2-409.3. Additionally, curbed meter readings violate R14-2-408.A, which requires the actual reading of a meter on a monthly basis. However, given that customers on Master Route 3 whose meter readings were curbed received appropriate, if not generous, refunds, the existing remedy appears to be symmetric with the harm incurred and, therefore, no penalties are recommended.
 - a. The A.A.C. and Commission rules and tariffs related to meter reading require the following:
 - (i) Each meter shall be read monthly on as close to the same day as practical.
 - (ii) Meter readings scheduled for periods not less than 25 days or more than 35 days.
 - (iii) Estimated bills issued only under the following conditions:
 - (a) Failure of customer to provide meter reading card
 - (b) Severe weather
 - (c) Dangerous conditions
 - (d) Meter not accessible
 - (iv) After the second consecutive month of estimating the customer's bill for reasons other than severe weather, an attempt to secure an actual meter reading.
 - b. Bills rendered based on curbed meter readings are not reported as estimated bills. The Commission Legal Division has determined that curbing meter reads is a violation of the estimation rules (R14-2-409). Since these bills are considered to be estimated bills, the Company issued additional estimated bills for reasons other than those allowed as discussed above. Also, these bills do not include "estimate" as required for estimated bills.
 - c. Based on our review of meter reading schedules, meter readings are scheduled to be read close to the same day each month.
 - (i) Due to cycle billing, the different number of days in each month, and that the same date each month seldom falls on the same day of the week, it is impossible to schedule each meter to be read the same date each month.
 - (ii) This issue is well understood in the utility industry and "as practical" language in rules and tariffs is common.
 - d. Based on our review of meter reading schedules, meter readings are scheduled to be read no less than 25 days and no more than 35 days from the date of the previously scheduled read.
 - e. Explanations for more than 90 percent of the bills estimated since 2002 are not available; however, these percentages are trending downward.

F. Key Findings and Conclusions – Meter Reading (Continued)

- (i) Given that the “no read codes” for the Commission-allowed reasons were not used in these instances, it appears that many estimated bills have been rendered for reasons other than those allowed by Commission rules and Company tariffs.
- (ii) In response to STF 1.1, the Company provided the numbers of bills estimated per month and the reasons for the estimates. This information is summarized in **Exhibit IV** above.
- (iii) Over forty percent of the 2002 estimates occurred in January 2002, the month following the conversion to the new American Water customer information system.
- (iv) AAWC stated in response to STF 1.1 that “no codes can be entered for several reasons, including a meter reader only entering a ‘trouble (comment) code’ (code 1 up to 70) or that the route was not completely read.”
- (v) AAWC stated in response to STF 2.12 that “(t)he higher number of estimates in the months mentioned above is probably related to early financial close dates for these months.” However, the Company later stated that it could not confirm the explanation provided in response to STF 2.12 and could offer no explanations for the higher number of estimated bills in the months of July 2002; February, March and May 2003; May, August and September 2004, and March and July 2005.
- (vi) However, based on interviews with two meter readers, there are few instances in which actual meter readings are not obtained.
 - (a) The primary reason is debris covering the meter box for new construction sites.
 - (b) If meter reads cannot be obtained for other reasons, skipped reads will be read at the end of the day to see if access problems have been taken care of.
 - (c) In the event of dangerous situations, most commonly bees in the meter pit, an exterminator will be called and the meter read the following day.
 - (d) Instances in which it is known that large meter routes may not be able to be completed by the assigned meter reader will be discussed at the morning meter reader meetings and other meter readers will be assigned to assist after they have completed their assigned routes for the day.
- (vii) Billing exceptions reports identify accounts with five or more consecutive estimated bills. Once it is confirmed that the reason for the estimated bills are for reasons other than severe weather, a service order will be issued to secure an actual meter reading.
 - (a) Arizona regulations require that attempts to secure an actual meter reading begin after the second consecutive month of estimating the customer’s bill for reasons other than severe weather.

F. Key Findings and Conclusions – Meter Reading (Continued)

- (b) BWG analyzed the estimated bill data provided in response to STF 2.8. In 2005, there were 61 accounts which received four or more consecutive estimated bills during the year. In 2004, there were 28 accounts which received four or more consecutive estimated bills.
- (c) This represents 0.06 percent of all accounts in 2005 and 0.03 percent of all accounts in 2004.
- (d) BWG requested explanations for accounts with four or more consecutive estimates in 2004 or 2005. **Exhibit VII** summarizes the explanations received.

**Exhibit VII
Consecutive Estimates**

| Reason for consecutive estimated bills | Number of accounts |
|--|--------------------|
| Two meters; possible programming error from CIS to Dap 9800 hand held device | 1 |
| Access problem – dogs | 8 |
| Unable to locate meter | 5 |
| Access problems – key required, meter blocked | 4 |
| Bad dial – could not read | 2 |
| Other | 3 |

G. KEY FINDINGS AND CONCLUSIONS – BILLING AND ESTIMATION

1. The curbed meter reading and overbilling problems identified in 2005 are not indicative of a systemic or pervasive problem with AAWC usage estimation and billing processes; however, the billing exceptions criteria used by the Company was too broad to effectively detect either the underbilling (July and August bills) or overbilling (September) problems in Arizona.
 - a. As discussed in more detail below, the method used by the Company to calculate usage when actual meter readings are not obtained is reasonable and consistent with Commission rules and regulations.
 - b. The Company accurately calculates customers' bills based on the reported consumption.
 - c. The Company has two billing representatives assigned to handle Arizona customer billing issues. However, one of these individuals was new to the billing department last summer when these problems started to occur.

G. Key Findings and Conclusions – Billing and Estimation (Continued)

- (i) As a result, trends that may have been observable to a more experienced employee were not identified.
 - (ii) The second, and more experienced billing representative assigned to Arizona, was not available to be interviewed when BWG visited the Alton customer service center.
- d. Billing representatives may also become aware of billing issues by working daily “billing exceptions.”
 - (i) Billing exceptions are reported daily for accounts failing the high/low bill test for bills generated the prior evening.
 - (ii) These bills will not be released until the exception has been resolved.
 - (iii) For residential accounts, the high and low parameters are \$500 and \$10, respectively. However, few of the Arizona accounts with curbed meter readings would have failed the billing high / low test.
- 2. The Company does not routinely adjust a customer’s account if the field order generated as a result of working the billing exceptions report confirms that the high bill was based on a correct actual read and the prior meter reading was reported as an actual meter reading.
 - a. The billing representative assumes that actual reported meter readings are accurate. In 2005, this assumption was found to be invalid in some instances.
 - b. If the field order was generated as a result of a customer high bill complaint, an adjustment may be made if the customer insists that the high bill resulted from an inappropriately low bill the prior month and the change in consumption was sufficient to bill too much consumption at a higher rate tier.
- 3. The Company’s inability to identify the problem, and the cause of the problem, on a timely basis resulted in dissatisfaction among those Arizona customers who called the call center with questions regarding their high bill following the two months of low bills based on the curbed meter readings.
 - a. The Company trains its call center representatives on how to respond to high bill complaints.
 - (i) This training instructs call center representatives to ask a series of probing questions designed to identify the possible cause of the high bill.
 - (ii) Based on individual customer circumstances and usage patterns, the questions asked may be different for different customers.
 - (iii) As a result, Arizona customers calling in regard to their high bills received different answers or actions to be taken to remedy the situation.
 - b. If a call center representative is unable to answer a customer’s question to the customer’s satisfaction, a service order will be generated to obtain a field checked meter reading and to test for meter movement that would indicate a potential leak.

G. Key Findings and Conclusions – Billing and Estimation (Continued)

- (i) Completed service orders are forwarded to the billing department for resolution.
 - (ii) ACC Consumer Services complaint files suggest that AAWC's call center has not consistently kept promises to call customers back with answers to the problems behind the customer's original call.
 - (iii) Call center representatives are unable to make outgoing telephone calls; this requires a hand-off to another call center employee to respond to the customer. Sufficient controls do not appear to be in place to ensure promises to return calls are kept.
- c. In 2005, call center staff reductions made in anticipation of efficiencies to be realized from the installation of IVR may have contributed to the problems experienced by Arizona customers.
- (i) Expected efficiencies resulting from the implementation of IVR were not realized and call center performance declined as a result.
 - (ii) In mid-2005, American Water hired an Operations Manager for the Alton call center.
 - (iii) This individual was charged with addressing call center workforce scheduling issues to ensure the call center achieves its performance objectives. These objectives are: average percent of calls answered within 30 seconds, average percent abandoned after thirty seconds, average speed of answer, and maximum queue time in IVR.
 - (iv) This task is complicated by the number of time zones in which American Water operates.
 - (v) In addition, part-time employees, the use of which is a common practice in effectively and efficiently managing call center performance, are restricted to fifteen percent of the workforce based on a collective bargaining agreement.
 - (vi) The call center achieved these performance standards in January 2006.
4. AAWC has taken action in response to the identified usage estimation and billing-related problems to help prevent these problems from re-occurring; however, these actions have not at this time resulted in the development of red flags or early warning systems to identify potential problems on a more timely basis.
- a. Meter reading-related actions (as noted above) provide reasonable assurance that bills will be based on accurate actual meter readings going forward. Billing problems will be reduced or eliminated if bills are issued based on accurate actual meter readings.
 - b. Relying on call center representatives or supervisors to identify trends that would alert Company management to potential meter reading or billing problems is not effective.
 - (i) Telephone calls from Arizona customers are answered by many individual call center representatives.

G. Key Findings and Conclusions – Billing and Estimation (Continued)

- (ii) The Company provides training to call center representatives that allows most calls to be resolved without supervisory input.
 - (iii) While first call resolution is an appropriate call center objective, supervisors may not, as a result, be made aware of trends in issues resolved by call center representatives on a timely basis.
- c. If call center telephone reports identified and reported trends in call volumes by state or jurisdiction, the Company could potentially be alerted at an earlier time to billing problems in specific jurisdictions.
- 5. Billing practices are generally consistent with Commission rules and tariffs; however, accounts with consecutive estimates are not reported as billing exceptions until a customer has received five consecutively estimated bills. This practice increases the likelihood that AAWC is not complying with the A.A.C. R14-2-409.3 requirement that after the second consecutive month of estimating the customer's bill for reasons other than severe weather, the Company must attempt to secure an actual meter reading.
 - a. Bills are rendered in a 25 day to 35 day billing period.
 - b. Estimated bills are based on consumption in the same month prior year.
 - (i) If same month prior year consumption is not available or was estimated, the estimate is based on prior month consumption.
 - (ii) If actual consumption history is not available for either the same month prior year or the prior month, the account is reported as a billing exception with the estimate determined by billing department representatives based on the best information available.
 - (iii) If required, the billing representative will issue a service order requesting an actual meter reading be obtained.
 - c. The Customer Service Superintendent maintains a notebook containing the rules, regulations, and tariff provisions the Company must comply with, and was conversant regarding those rules and AAWC's compliance with those rules.
 - d. However, no one we interviewed at the customer service center in Alton, Illinois could definitively confirm that AAWC was in compliance with all Commission rules related to billing. The common response was that the staff responsible for implementing the customer information system in 2002 would have ensured that functionality of the system resulted in the compliance with Arizona billing-related regulations.
 - (i) In response to STF 4.11 issued following the site visit to Alton, IL, the Company indicated that a billing exception for maximum estimates will be triggered if the premises is billed monthly and the active account has received five consecutively estimated bills. This is not consistent with Arizona requirements as mentioned above.
 - e. There are adequate controls in place to ensure that changes in tariffs and regulations are properly addressed since the installation of the customer information system.

G. Key Findings and Conclusions – Billing and Estimation (Continued)

6. Usage estimation and billing practices are generally reasonable and consistent with industry standards (see **Appendix A** for a summary of selected meter reading and billing practices in other jurisdictions).
 - a. The use of the same month prior year consumption is a common practice in the water utility industry.
 - b. No comparative information is available regarding practices for making billing adjustments other than for meter registration errors, which is outside of the scope of this investigation.
 - c. Many water utilities outside of Arizona render bills other than on a monthly basis.
 - (i) It is common practice in the water utility industry to render bills quarterly or bi-monthly.
 - (ii) In instances in which bills are rendered monthly, it is not uncommon for water utilities to base every other monthly bill on estimated usage.
 - d. The Company's inverted block rate structure, designed to encourage conservation, increases the importance of obtaining actual meter readings in order to render accurate customer bills compared to companies with declining block rate structures.
 - (i) BWG was unable to find rules and regulations or tariffs in jurisdictions with inverted rate structures which specifically mention the importance of obtaining accurate actual meter readings due to the inverted rate structures.
 - e. The "cancel/re-bill" process for making multi-period billing adjustments is time consuming; this results in multi-period billing adjustments being recorded as an adjustment to the most recent billing period rather than in each affected period.
 - (i) Calculating bill adjustments is a manual process; many modern customer information systems provide automated tools or programs to calculate these adjustments.
7. Usage estimation calculation practices result in reasonably accurate estimated bills.
 - a. The Company's usage estimation calculation is consistent with industry practices and Arizona rules and regulations.
 - (i) Estimated bills are based on usage per day information from the same month last year or the prior month if actual information from the prior year is not available
 - b. For nine accounts with bills rendered based on actual meter readings, BWG had the Company calculate estimated bills using the customer information system bill estimation processes. Six of the estimates were less than the actual, two were higher than the actual, and one was identical.
 - (i) There were no instances in which the nine accounts would have been billed more given the inverted rate structure if the estimated usage rather than actual usage served as the basis for the billing.

G. Key Findings and Conclusions – Billing and Estimation (Continued)

- (ii) The process for selecting accounts to be tested, estimating consumption, and comparing estimated consumption to the actual volumes billed was labor intensive. Given the amount of time available during the site visit to Alton, IL, BWG limited the number of accounts tested to nine accounts.
- c. BWG recalculated usage for accounts with estimated bills to determine whether our calculation of estimated usage based on same month, prior year or prior month usage per day data matched the Company's calculation of estimated usage.
 - (i) Our calculation of estimated usage exactly matched the usage estimation billed to the customer for 181 of 275 accounts, or 66 percent of the accounts tested.
 - (ii) Overall, the calculation of estimated usage was within 2.5 percent of the usage billed to the customer.
- 8. While customer service and billing training programs appear to be appropriate and comprehensive, customer complaints related to interactions with American Water customer service representatives indicate that the training programs may not be effective.
 - a. BWG reviewed training materials provided to CSRs and billing personnel and found the materials to be comprehensive, thorough and up-to-date.
 - b. Training programs are provided on a timely basis, especially for new employees.
 - c. Through review of training records, we determined that customer service and billing personnel completed the required training.
 - d. Call center and billing department personnel interviewed suggest that call center and billing training programs are effective.
 - e. However, our review of AAWC customer complaints as shown in **Appendix B, Customer Complaint Summary**, indicates that the training programs are not effective or that there are other factors in place which mitigate the effectiveness of the training programs.
- 9. American Water's use of a consolidated call center and billing department for all American Water operating companies is a reasonable business practice; but this practice may have contributed to delays in identifying the meter reading and billing problems and responding to the Arizona customers impacted by the 2005 meter reading and billing problem.
 - a. American Water completed its consolidation of customer service (call handling, billing, and collections) into a National Customer Service Center in May 2004. The objective of the consolidation was to improve customer service and improve efficiency.
 - b. An American Water Internal Audit report issued in July 2005 indicated that while forecasted Billing Department staffing levels totaled 74 FTEs, the actual staffing level was 57.5 FTEs. Of the 57.5 FTEs, approximately 20 FTEs were pulled from billing to handle customer service activities, reducing the billing staff to 37 FTEs.
 - (i) The Billing Department used overtime to handle billing responsibilities.

G. Key Findings and Conclusions – Billing and Estimation (Continued)

- (ii) It is not likely that overtime can mitigate the impact of staffing levels at only 50 percent of forecasted requirements.
- (iii) The reduction in billing department staffing may have contributed to delays in identifying and correcting the AAWC meter reading and billing problem in 2005.
- c. Based on our review of the informal complaints filed with the Commission related to AAWC's 2005 meter reading and billing problems several customers were upset that promises made by the Company to return telephone calls or provide additional information were not kept.
 - (i) Resources available in the American Water's Sun City Arizona office were insufficient to deal with the volume of complaints and calls generated as a result of the problem.
 - (ii) If the call center and billing department were decentralized, additional resources would have been available to respond to customers, thereby increasing the likelihood that promises would be kept.
- d. The call center has performance standards for the average speed of answer (80 percent in 30 seconds) and abandoned call rates (five percent) which are typical in the utility industry.
 - (i) Benchmarking studies in which American Water participated indicate the following:

**Exhibit VII
Call Center Benchmarks**

| Benchmarking Study | Service Level | | Abandoned Call Rate | |
|--------------------|-------------------|-------------------|---------------------|---------------|
| | Industry Actual | Industry Best | Industry Actual | Industry Best |
| eLoyalty | 80% in 70 seconds | 80% in 10 seconds | 6.35% | 3.9% |
| Purdue University | 80% in 30 seconds | 80% in 26 seconds | 5.28% | 3.21% |

- (ii) The NARUC-sponsored publication entitled "Performance-Based Regulation for Distribution Utilities" prepared by The Regulatory Assistance Project in 2000 identified PBR plans which included call center response time standards ranging from 35% within 30 seconds to 80% within 30 seconds.
- (iii) BWG is aware of a utility industry benchmarking study that reports a mean of 70 percent of calls answered within 30 seconds and first quartile performance of 77 percent within 30 seconds.

G. Key Findings and Conclusions – Billing and Estimation (Continued)

- (iv) The Pennsylvania PUC 2003 Customer Service Performance report indicates that the percent of calls answered 30 seconds by electric and gas LDCs operating in Pennsylvania range from 45 percent to 81 percent with an average (calculated by BWG) of 69 percent.
- (v) The Settlement Agreement in the Exelon/PSE&G merger (PaPUC Docket No. A-110550F0160) requires that 70 percent of calls be answered within 30 seconds and that the average abandoned call rate not exceed 5 percent (although the company agrees to target performance at four percent).
- (vi) Standards in the telecommunications industry appear to be more stringent; for example, the Arizona US West Service Quality Plan Tariff requires that 80 percent of calls be answered within 20 seconds and the Verizon – New Jersey Metric Business Rules require that 95 percent of calls be answered within 30 seconds.
- e. It is unlikely that a local call center could be staffed cost-effectively and maintain these same standards.
- f. Reports are not available to identify whether service provided to calls originating from Arizona customers meet these standards.
- g. In 2005, call center staff reductions made in anticipation of efficiencies to be realized from the installation of IVR appear to have contributed to the problems experienced by Arizona customers.
 - (i) Expected efficiencies resulting from the implementation of IVR were not realized and call center performance declined as a result.
 - (ii) Based on information provided by American Water, the call center achieved these performance standards in January 2006.

H. KEY FINDINGS AND CONCLUSIONS – REFUNDING

- 1. The process used to provide refunds to customers whose meter readings were curbed ultimately resulted in appropriate, if not generous, refunds to customers on Master Route 3.
 - a. Initially, refunds granted took the form of courtesy credits (i.e., amounts considered to be in excess of the amount actually due based on a specific calculation) or refunds calculated based on prescribed bill adjustment procedures (see below).
 - b. Ultimately, all accounts in Master Route 3, which included customers located in Aqua Fria, Sun City and Sun City West, were analyzed programmatically for the period April 5th through October 5th to identify accounts in which meter readings were potentially curbed.
 - (i) This period represents the date range in which the reads were in question; i.e., in which routes were read by the meter reader subsequently identified as having curbed meter readings, but excludes routes not in Master Route 3.

H. Key Findings and Conclusions – Refunding (Continued)

- (ii) This period also provides a sufficient number of months in which to calculate the adjustment amount which is based on average monthly consumption.
- (iii) Accounts were appropriately selected for adjustment if during the period from April 5th through October 5th, the highest tiered consumption was not the same in each month.
- (iv) That is, if all bills rendered during this period had Tier One and Tier Two consumption, they were not selected for adjustment.
- c. The process used by the Company correctly identified those Master Route 3 customers for which consumption was inappropriately billed at a higher rate tier.
 - (i) Adjustments made programmatically recognized adjustments already made to individual customer accounts and resulted in additional refunds of the net difference.
 - (ii) If previous adjustments exceeded the programmatically calculated adjustment, customers were not requested to refund back to the Company portions or previously granted refunds.
- d. In applying the programmatic refund to Master Route 3 customers, and only Master Route 3 customers, the Company properly recognized that most of the billing errors resulted from curbed Master Route 3 meter readings.
 - (i) During the initial phases of the Company's investigation into its meter reading problems, two meter readers were suspected of curbing large numbers of meter readings; however, as the investigation continued, only one meter reader was identified as consistently curbing meter readings.
 - (ii) Sixty percent of the calls received by the hotline pertained to the route read by one meter reader, Master Route 3.
 - (iii) The pattern of misreads with the other meter reader was not identified as being systematic. Only three percent of the calls received by the hotline pertained to routes read by the second meter reader.
 - (iv) No other master route accounted for more than ten percent of the calls received by the hotline.
 - (v) However, the Company's responsibility to accurately bill customers is not discharged by only addressing "most" of the problems. (see Finding 2 below).
- e. **Appendix B** summarizes all formal customer complaints filed with the Commission related to the meter reading and billing problem and compares the refund made to customers with that calculated by BWG.
 - (i) The refund amount calculated by BWG represents the maximum amount due the customer assuming that consumption was consistent in each month during 2005.

H. Key Findings and Conclusions – Refunding (Continued)

- (ii) Even using this very conservative methodology for calculating refunds due to customers, the refunds made by the Company to this group of customers exceeded the amount that should have been refunded based on our calculation by nearly four times.
 - (iii) Refunds totaling \$6,142.40 were made to these customers. BWG calculated the maximum amount of refunds due these customers at \$1,574.68.
- f. In addition, BWG calculated refunds due to two customers residing on Eureka Trail, Surprise based on actual bill copies provided by these customers. See **Appendix D** for the detailed analysis.
 - (i) This is one of the areas affected by the curbed meter readings.
 - (ii) These customers represented to Commission Staff that meter reading problems have been occurring for several years and were not restricted to 2005.
 - (iii) These bills went back to January 2002 for one customer and December 2002 for the other customer.
 - (iv) For the customer providing bill copies going back to December 2002, the amount overbilled by the Company totaled \$2.99; all resulting from the 2005 meter reading problem. Meter reading problems that may have existed in prior years had no impact on amounts billed. This customer was provided a refund of \$24.87.
 - (v) For the customer providing bill copies going back to January 2002, the maximum amount potentially overbilled by the Company totaled \$9.99. This includes potential overbillings in 2003 and 2004 as well as 2005, although it is not clear that monthly consumption amounts in 2003 and 2004, which were questioned by BWG and used in the calculation of the amount overcharged, were in fact due to meter reading problems rather than seasonal variations in consumption. This customer was provided a refund of \$69.64.
- 2. Actions taken by the Company to ensure that refunds were provided to customers who received bills based on curbed meter reading on routes other than Master Route 3 were not sufficient.
 - a. The programmatic solution discussed above did not apply to non-Master Route 3 customers.
 - b. Also, as mentioned above, meter reading and billing exceptions parameters are not tight enough to detect all billing errors based on curbed meter readings.
 - c. BWG selected three meter routes (209, 315 and 425) read by the meter reader who curbed the Master Route 3 meter readings in July and August 2005 for additional testing.
 - (i) We identified a total of 112 accounts on these routes whose meter readings may have been curbed.

H. Key Findings and Conclusions – Refunding (Continued)

- (ii) The impact of the potential curbed meter reading did not cause a subsequent bill to inappropriately bill consumption at a higher rate tier (that is, result in an overbilling) about one-half the time.
 - (iii) However, 58 of the 112 accounts were overbilled based on BWG calculation.
 - (iv) For these 58 accounts, the BWG-calculated refund owed was \$72.68, or \$1.25 per customer.
 - (v) The largest potential individual refund identified by BWG for which the customer has not already received a credit is \$3.97; most were less than \$1.00.
 - (vi) Only twenty percent (or 22) of the 112 accounts were exception reported by the Company; and of these 22 accounts, only four received credits due to curbed meter readings.
 - (vii) As mentioned above, if the readings are confirmed as accurate and both the current and prior meter readings were reported as actual (as opposed to estimated) meter readings, no adjustment would be made.
 - (viii) Eleven of the 112 accounts received credits for curbed meter readings or billing exceptions without having been exception-reported. In these instances, the customer probably reported the potential curbed meter reading.
 - (ix) These fifteen accounts (four exception-reported and eleven other) received credits totaling \$446.33, far exceeding the refunds identified by BWG.
3. Adjustments made to bills based on estimated usage when actual meter readings are obtained are properly calculated, including the assignment of consumption to the appropriate rate tiers.
- a. Adjustments to estimated bills are calculated using the average usage per day for the entire period.
 - (i) Revised bills for each month in the period are manually calculated.
 - (ii) The sum of these revised bill amounts is compared to the sum of the original bill amounts with an adjustment made for the difference.
 - (iii) The billing representative assigned to Arizona who was interviewed by BWG competently discussed the Company's bill adjustment practices and demonstrated the calculation of adjustments.
 - (iv) However, the manual calculation of the revised bills is inherently more risky than an automated process; either CIS or a spreadsheet tool.
 - (v) The calculation does not take into consideration seasonal or monthly variations in water usage. However, with the inverted rate structure, the use of a constant usage per day will automatically assign the most consumption possible to the lowest priced rate tiers.
 - b. The current process may not identify all instances in which an incorrect estimate results in consumption being inappropriately priced at a higher rate tier.

H. Key Findings and Conclusions – Refunding (Continued)

- (i) Adjustments are only calculated when the bill rendered based on the actual read results in a billing exception.
 - (ii) Residential customer bills seldom fail the billing high/low test.
 - (iii) The programmatic solution implemented in 2005 to identify and correct the overbillings for Master Route 3 customers was a non-standard solution implemented to fix a one-time problem.
- 4. Refunds are not generally made for exception-reported accounts if both the prior and current reads are reported as actual reads and the current read is confirmed as accurate. This practice is appropriate except in those instances in which the prior month “actual” meter reading has been curbed or mis-read.
 - a. This was the case in months prior to July and August 2005 when accounts with single-month curbed meters resulted in high subsequent month billings.
 - b. However, fifteen of the 112 accounts reviewed by BWG received refunds due to curbed meter readings or billing problems.
 - (i) This is most likely due to customer complaints that the prior month consumption was too low.
 - c. Company management identified meter reading problems and took disciplinary action related to curbed meter readings in months prior to July and August 2005, however these problems were not considered to be widespread.
 - (i) Had meter reading and billing exception-reporting parameters been tighter in 2005, the scope of the problem may have been more fully recognized on a more timely basis.
 - (ii) As it played out, it took two consecutive months with curbed reads before the scope of the problem was fully recognized.

I. RECOMMENDATIONS

Meter Reading

- 1. Require AAWC to define and implement a “low use” limit in the meter reading system based on the previous month’s consumption of the individual customer within six months of a decision in this matter. (Refers to Meter Reading Finding No. 8)
- 2. Require AAWC to develop a report which lists the number of over-rides entered by individual meter readers by cycle on a daily basis and implement a procedure whereby this report is reviewed on a daily basis by supervisory personnel. This process should be completed within six months of a decision in this matter. (Refers to Meter Reading Finding No. 8)

I. Recommendations (Continued)

3. Require AAWC to establish a "no tolerance" policy for the curbing of meter reads and then ensure that meter readers are aware of that policy. In addition, require AAWC to emphasize the importance of actual meter readings in generating accurate customer bills when training its meter reading staff. (Refers to Meter Reading Finding No. 1)
4. Require AAWC to complete a cost-benefit study related to the implementation of an automated meter reading system to assure accurate actual meter readings. Require the Company to provide the results of this study to the Commission within twelve months of a decision in this matter. (Refers to Meter Reading Finding No. 7)
5. Require AAWC to change its billing exceptions parameters for Arizona customers so that accounts are reported following two consecutive estimates rather than five consecutive estimates. (Refers to Meter Reading Finding No. 14)
6. For the next two years, require AAWC to report to the Commission Staff the results of its monthly quality control meter reading inspections. Require the Company to report the likely number of customers affected, and steps taken to remedy the problem in the event the Company determines that meter readings have been curbed. (Refers to Meter Reading Finding No. 2)
7. Require AAWC to continue to disable the key on the hand held meter reading device showing the customer's previous meter reading. (Refers to Meter Reading Finding No. 4)

Billing and Estimation

8. Require AAWC to change its process for coding the reason for estimated bills to eliminate "no code" as an option. In this way, both the Company and Commission can be assured that bills are being estimated only for reasons specifically allowed in Commission rules. Require this change to be completed within three months of a decision in this matter. Given the uncertainty as to whether estimated bills are being rendered only for the specifically allowed reasons, require the Company to provide Commission Staff with quarterly reports of the number of estimated bills rendered by reason code for the next two years. (Refers to Billing and Estimation Finding No. 1)
9. Require AAWC to adjust the parameters on the high / low billing exceptions test to customer-specific parameters based on current period amounts billed for water services compared to the billing for the same period prior year (or prior month) at the same premises. Require this change to be completed within six months of a decision in this matter, with documentation of the change then provided to the Utilities Division, Consumer Services Chief. (Refers to Billing and Estimation Finding No. 2)
10. Require AAWC to evaluate its processes and related systems of internal controls to ensure that promises made to call customers back once the requested task is completed are kept. Require this change to be completed within six months of a decision in this matter, with documentation of the change then provided to the Director of the Utilities Division. (Refers to Billing and Estimation Finding Nos. 3 and 9)

I. Recommendations (Continued)

11. Require AAWC to define and develop a report of the number and type of customer complaint calls by day for each service area (Sun City, Sun City West, Agua Fria, etc.) in the AAWC franchise territory. This change should be completed within twelve months of a decision in this matter. (Refers to Billing and Estimation Finding No. 3)
12. Require AAWC to simplify the "cancel / re-bill" procedure. This will ensure that more accurate usage information is retained and made available upon which to calculate estimated bills. This change should be completed within twelve months of a decision in this matter. (Refers to Billing and Estimation Finding No. 6)
13. Require American Water to train its call center representatives to recognize when billing complaints may be the result of curbed meter readings. (Refers to Billing and Estimation Finding No. 8)

Refunding Methodology and Process

14. Require AAWC to automate the billing adjustment process. The current process is a manual process and is more prone to calculation error than a process programmatically embedded in the customer billing system. Automating this process may be necessary if the parameters of the billing exceptions process are tightened and more bills reported as billing exceptions. This change should be completed within six months of a decision in this matter. (Refers to Refunding Finding No. 7)
15. Require AAWC to programmatically identify and issue refunds to those customers not located in Master Route 3 using the same program applied to Master Route 3 customers. (Refers to Meter Reading Finding No. 3 and Refunding Finding No. 2)

ARIZONA-AMERICAN WATER COMPANY
METER READING AND BILLING INVESTIGATION

APPENDIX A

**SUMMARY OF SELECTED METER READING AND
BILLING PRACTICES IN OTHER JURISDICTIONS**

Purpose of Appendix A

The purpose of this Appendix is to present for comparative purposes the meter reading and billing practices of other water utilities as required by rules, regulations and tariffs in other jurisdictions.

| SOURCE | BILLING | METER READING |
|---|--|--|
| City of Oklahoma City | Utility bills are issued monthly. | Meters that cannot be read are estimated. |
| Suburban Water Systems Covina, CA 91724 | Bills for service will be rendered each customer on a monthly or bimonthly basis. | It may not always be practical to read meters at intervals which will result in billing periods of equal numbers of days, e.g. should a monthly billing period contain less than 27 days or more than 33 days a pro rata correction in the amount of the bill will be made. |
| United Water Pennsylvania, Inc. (P.A. PUC) | Where the Company bills on a monthly basis, it may estimate usage of service every other billing month, as long as the Company provides each ratepayer with opportunity to read the meter and report the quantity of usage in lieu of such estimated bill; the company may estimate the bill of any ratepayer if extreme weather conditions, emergencies, equipment failure, work stoppages or other circumstances prevent actual meter reading. | <p>The Company may estimate the bill of any ratepayer if Company personnel are unable to gain access to obtain an actual meter reading so long as:</p> <ul style="list-style-type: none"> • The Company has undertaken reasonable alternative measures to obtain a meter reading including, but not limited to the provision of pre-addresses postcards upon which the ratepayer may note the reading or telephone reporting of the reading, and • The Company, at least every six months, obtains an actual meter reading to verify the accuracy of the readings, either estimated or ratepayer read. |
| Water Services Dept. Kansas City, MO | Water meters serving premises having monthly water consumption averaging less than 50,000 cubic feet of water per month, or when estimated by the manager of consumer services to approximate that figure, may be read and bills for services may be rendered monthly, bimonthly or quarterly, at the discretion of the director. | |
| NCUC Rules, Chapter 7 | | <p>Meters will be read as nearly as possible at regular intervals. This interval may be monthly or quarterly.</p> <p>If a meter is found not to register for any period, the utility shall estimate the consumption, based on a like period of similar use.</p> <p>The utility shall read its service meters at regular intervals.</p> |
| Rules of the Florida Public Service Commission CT | <p>If the utility estimates the bill, the utility shall indicate on the bill that the amount owed is an estimated amount.</p> <p>Utilities shall avoid, insofar as practicable, sending a customer two successive estimated bills. Estimated bills of residential customers shall be rendered in accordance with the provisions of section 16-3-102 of the regulations of</p> | Meters shall be scheduled to be read at least quarterly except for seasonal customer. |

| | | | |
|---|--|--|--|
| | Connecticut state agencies. | | |
| Tennessee Regulatory Authority Division of Public Utilities Chapter 1220-4-3 Water Regulations | <p>When a customer has been overcharged as a result of incorrect reading of the meter, incorrect application of the rate schedule, incorrect connection of the meter or other similar reasons, the amount of the over-charge shall be adjusted, refunded, or credited to the customer.</p> <p>If a utility bills on a monthly basis, it may estimate usage of services every other billing month, so long as the utility provides a ratepayer with the opportunity to read the meter and report the quantity of usage in lieu of the estimated bill. The resulting bills shall be based on the information provided, except for an account where it is apparent that the information is erroneous.</p> <p>A utility may estimate the bill of a ratepayer if extreme weather conditions, emergencies, equipment failure, work stoppages or other circumstances prevent meter reading</p> <p>A utility may estimate the bill of a ratepayer if utility personnel are unable to gain access to obtain an actual meter reading, as long as</p> <ul style="list-style-type: none"> • The utility has undertaken reasonable alternative measures to obtain a meter reading, including, but not limited to the provision of pre-addressed postcards upon which the ratepayer may note the reading or the telephone reporting of the reading. • The utility, at least every 6 months, or every four billing periods for utilities permitted to bill for periods in excess of 1 month, obtains an actual meter reading or ratepayer supplied reading to verify the accuracy of the estimated readings. • The utility, at least once every 12 months, obtains an actual meter reading to verify the accuracy of the readings, either estimated or ratepayer read. | <p>Meters shall be scheduled to be read at not greater than quarterly intervals. Utilities shall avoid sending a customer two successive estimated bills.</p> | |
| Ohio Administrative Code | | <p>Each company shall read each customer's meter at least once each three-month period unless access to the meter is unobtainable.</p> <p>Each company shall read each customer's meter at least once per year. The reading of a generator-type remote</p> | |

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| | | | meter device does not satisfy this requirement. |
| Ohio American Water Company P.U.C.O. No. 15 Tariff No. 89-7025-WW-TRF | When a customer has been over-charged as a result of incorrect reading of the meter, incorrect application of the rate schedule, incorrect connection of a meter, or other similar reasons, the amount of the over-charge will be adjusted and refunded or credited to the Customer within 30 days or on the next bill. | | |
| United Water South County Water, Inc. NY | <p>Bills will be rendered quarterly in arrears unless otherwise stated in the applicable service classification. Quarterly bills will cover service for three months ending March 31, June 30, September 30 and December 31.</p> <p>When the Corporation is unable to obtain actual meter readings, it may render an estimated bill. The conditions of allowable estimated bills are stated in 16 NYCRR Section 14.12 (B)(1)(i-viii).</p> <p>Estimated bills will be calculated in accordance with an established formula which takes into account the best available relevant factors for documenting the customer's usage.</p> <p>The Corporation will begin issuing No Access notices with the next cycle bill issued after a customer's bill is estimated for two consecutive (quarterly) residential billing cycles.</p> | <p>The Corporation will attempt to obtain an actual reading for every metered account, on a regularly scheduled basis in accordance with this tariff. If unsuccessful in attempting to obtain an actual reading, the Corporation will leave a meter reading card at the premises.</p> | |
| United Water New Jersey, Inc. | <p>Bills for general metered water service will be rendered at a minimum quarterly, or monthly, as determined by the Company. Where a bill has been estimated due to the fact that the Company has been unable to gain access to the meter, it will be so noted on the bill. During the billing period when the next regular meter reading is obtained, an appropriate adjustment will be made for any difference between actual use and estimated use of water.</p> | | |
| Department of Economic Development Division 240-Public Service Commission | <p>Each billing statement rendered by a utility shall be computed on the actual usage during the billing period, except as follows:</p> <p>A utility may render a bill based on estimated usage</p> <ul style="list-style-type: none"> • To seasonally billed customers • When extreme weather conditions, emergencies, labor agreements or work stoppages prevent actual | | |

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| | <p>meter readings</p> <ul style="list-style-type: none"> • When the utility is unable to obtain access to the customer's premises for the purpose of reading the meter or when the customer makes reading the meter unnecessarily difficult. If the utility is unable to obtain an actual meter reading for these reasons, where practicable it shall undertake reasonable alternatives to obtain a customer reading of the meter, such as mailing or leaving post-paid, preaddressed postcards upon which the customer may note the reading unless the customer requests otherwise. • A utility shall not render a bill based on estimated usage for more than three (3) consecutive billing periods or one (1) year, whichever is less. • If a utility is unable to obtain an actual meter reading for three (3) consecutive billing periods, the utility shall advise the customer by first class mail or personal delivery that the bills rendered are estimated, that estimation may not reflect the actual usage and that the customer may read and report electric, gas or water usage to the utility on a regular basis. | |
| <p>Kentucky-American Water Company</p> | <p>Bills for water service by meter will be rendered for monthly or quarterly periods at the option of the Company.</p> | <p>The Company will continually monitor the usage of each customer according to the following procedure:</p> <ul style="list-style-type: none"> • Each time an account is read, the resulting usage for the current period will be compared to the usage for the same period for the previous year. If the usage for the current period is equal to or greater than two times the usage for the same period for the previous year, this will be automatically noted on the company's daily billing edit. If the usage for the current period is less than or equal to one-third of the usage for the same period for the previous year, this will also be automatically noted on the company's daily billing edit. • If the difference cannot be attributed to a readily |

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| | | | identified common cause, the meter will be re-read before the account is billed. |
| IOWA Chapter 21 Service Supplied by Water Utilities | An estimated bill may be rendered in the event that access to meter cannot be gained and a meter reading form left with customer is not returned in time for the billing operation. Only in unusual cases shall more than three consecutive estimated bills be rendered. | Reading of all meters used for determining charges to customers shall be scheduled at least quarterly. | |
| Indiana Administrative Code Article 6. Water Utilities | <p>170 IAC 6-1-13 Bills for Water Service rendered periodically to customers for water service shall show at least the following information:</p> <ul style="list-style-type: none"> • The dates and meter readings of the meter at the beginning and end of the period for which the bill is rendered and the billing date • A water utility may estimate the bill of any customer pursuant to a billing procedure approved by the Commission or for other good cause, including, but not limited to: request of customer; inclement weather; labor or union disputes; inaccessibility of a customer's meter if the utility has made reasonable attempt to read it; and other circumstances beyond the control of the utility, its agents and employees. | | |
| Indianapolis Water | Accounts will be billed monthly. The billing received in between the bimonthly readings will be an estimated reading based on a moving average of your water usage. | Meters will be read every other month. If the meter is outside, customers are responsible for maintaining the pit and meter connections in proper condition. | |
| California-American Water Company Chula Vista, CA 91914 | Bills for service will be rendered each customer on a monthly or bimonthly basis at the option of the utility, unless otherwise provided in the rate schedules. | | |
| Camrose Water System Camrose, AB | | Water meters read every second month. | |
| Utilities Division Newton, MA | If customers receive more than two estimates in a row, they should contact the business office to find out why. | | |
| Portland, OR | Meters are read and customers billed four times per year. | | |
| Waterloo Water Works | Meters read and customers billed quarterly. | | |
| Rockville, MD | Meters read and customers billed quarterly. Estimate based on same month last year – estimate only for inclement weather. | | |
| City of Helena, MT | Billing system bases estimates on usage during the same | | |

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| | period the prior year. | |
| Boulder Public Works | If for some reason a meter cannot be read, the customer will receive an estimated bill based on historical records or other relevant data. Any necessary bill adjustment will be made after the meter is able to be read. | |
| Xenia, OH Utility Billing | Water meters are read on a quarterly basis, but to ease the burden of paying your bills, the Utility Billing office issues estimated bills for the other two months in the quarter. The bill that is generated after the meters have been read is a "catch-up" bill that calculates your total water and sewer charges for the quarter based on the actual usage, and then deducts any payments made on the two previous estimated bills. The estimated bills are based on your consumption for the same quarter in the previous year. If you did not occupy the property at that time, the bill is based on the last quarter's consumption. For the new customers, the estimated monthly billings are based on the minimum charge. | |
| City of Fairfax, VA | Bills for water and sewer services are mailed monthly for commercial customers and quarterly for residential customers. If our meter reader cannot read your meter because of such obstacles as harsh weather, leaves or overgrown shrubs, we must send you an estimated bill based on past usage. | |
| Great Bend, KS | <p>The utility may render a bill based on estimated usage under the following circumstances:</p> <ul style="list-style-type: none"> • Extreme weather conditions, emergencies, work stoppages or other circumstances beyond the City's control • When the utility is unable to reasonably obtain access to the customer's premises for the purpose of reading the meter. The utility may not render a bill based on estimated usage for more than three (3) consecutive billing periods. | Water meters will be read on a monthly basis on a pre-set cycle. |

ARIZONA-AMERICAN WATER COMPANY
METER READING AND BILLING INVESTIGATION

APPENDIX B

CUSTOMER COMPLAINT SUMMARY

Purpose of Appendix B

The purpose of this Appendix is to provide of a listing of the complaints filed with the Commission associated with this AAWC meter reading and billing investigation. This listing includes the customer's street and city address, date of complaint, nature of the complaint, utility response to the complaint, credit received and BWG calculated credit due the customer.

In all but six instances, the credit received exceeded the amount of the credit due as calculated by BWG. It should be noted that the credit due as calculated by BWG assumed that consumption was level in all periods. This assumption is very conservative and the credit due the customer based on this calculation represents the maximum amount that could be due the customer.

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|------------------------------------|--------------------|---|--|-----------------|---------------------------|
| N 124th Ave, Sun City West | 9/29/05 | High bill – tripled in last month. | Underbilled in previous month. Account credited for overbilling due to rate tiers. | \$85.73 | \$15.73 |
| La Teraza Dr., Sun City West | 9/26/05 | New bill significantly higher than prior month bill. | Meter misread last month (August). Account to be credited for overbilling due to rate tiers. | 12.53 | 11.71 |
| W. Buttonwood Dr., Sun City West | 10/31/05 | High bill complaint. Left information on Hotline, but AAWC never called back. Made four additional calls to AAWC and did not get a call back. | Underbilled in July and August resulted in high September bill. Credit of 26 thousand gallons (TG) at the highest tier billed. | 41.10 | 12.62 |
| N. 129th Dr., Sun City West | 11/9/05 | High bill complaints – both September and June bills. | Told would receive adjustment, but didn't appear on next bill. | 21.20 | 5.42 |
| W. Southampton Rd., Surprise | 8/11/05 9/29/05 | High bill complaint – July bill. | Meter removed from service and tested. Meter re-read – OK. Home audit test for leaks performed – none found. Account put on hold pending resolution. Meeting scheduled for 12/5. | 340.46 | 34.31 |
| N. Conquistador Dr., Sun City West | 10/26/05 | High bill complaint – May/June bill and current bill. | Replaced meter. | 112.29 | 29.10 |
| W. Medinah Way, Surprise | 9/26/05 | June and August bills too high. Bad tasting water. Water never gets cool/cold. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 26.14 | 11.74 |
| N. Desert Glen Dr., Sun City West | 9/30/05 | High September bill due to low billed consumption in July and August. Initial telephone to Company did not resolve problem. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 39.81 | 25.04 |
| N. Wessex Dr., | 12/7/05 | High bill complaint. Called | Underbilled in September resulting in high | 37.45 | 5.66 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|-------------------------------------|-------------------|---|---|-----------------|---------------------------|
| Surprise | | the Company each month since the problem occurred but without resolution. | October bill. | | |
| N. Limebelt St., Buckeye | 8/24/05 | High bill complaint. | Replaced meters on two occasions. Couldn't detect problem. Offered onetime courtesy adjustment. | 221.34 | 5.55 |
| Heritage Drive, Sun City West | 11/1/05 | High bills – September and October. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 22.49 | 22.33 |
| N. Dusty Trail Blvd., Sun City West | 9/29/05 | High August bill; even higher September bill. | Underbilled in June resulting in high July bill. Account to be credited for overbilling in July due to rate tiers. | 34.12 | 34.21 |
| N. 132nd Ave., Sun City West | 10/5/05 | High September bill. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 5.00 | 0.82 |
| N. 147th Dr., Sun City West | 9/28/05 | High September bill. Left message but has not been called back. | No response noted in complaint file. | 94.35 | 29.29 |
| W. Rushmore Dr., Phoenix | 10/25/05 | Delay in receiving bill – resulted in assessment of late fee. Initially told the late fee (\$1.41) would not be waived. | Late fee removed. | 17.58 | 16.96 |
| W. Blue Stern Dr., Sun City West | 9/29/05 | High September bill following low August bill. | Account credited for overbilling due to rate tiers. | 17.58 | 16.90 |
| N. 174th Ave., Surprise | 12/5/05 | High August bill following low June and July consumption. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 39.79 | 20.28 |
| NA | 9/26/05 | High bill complaint. Also, early AM construction (and | Credit adjustment applied to account. Noise concern addressed by operations | 56.81 | NA |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|----------------------------------|-------------------|--|---|-----------------|---------------------------|
| | | noise) at Water Company building across street. | manager. | | |
| W. Blue Verde Dr., Sun City West | 9/30/05 | High bill. Wants to know if this is the same meter reading problem or a new problem. | July underbilling resulted in high September bill due to rate tiers. | 33.07 | 23.19 |
| W. Lea Lane, Surprise | 8/24/05 | High bill. Checked meter and found it to be covered by dirt. Doesn't believe the meter was read. | Box cleaned. Was probably not read. Bill will be adjusted. | 18.54 | 13.70 |
| N. 137th Dr., Sun City West | 12/2/05 | Customer had not received a response from the Company related to his 3 letters he wrote regarding the billing problem. | AAWC personnel telephoned the customer regarding the billing problems and the billing adjustment made to his account. | 67.21 | 21.43 |
| Canapala Point, Sun City | 9/28/05 | High August and September water bills. No response from Company to call made. | Field investigation revealed an irrigation leak. | NA | NA |
| Skyhawk Drive, Sun City West | 10/6/05 | High September bill. No response from the Company. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. However, the high consumption over the three month period may be due to an irrigation leak. | 68.24 | 20.24 |
| Thornhill Drive, Sun City West | 10/14/05 | High September bill. | September catch-up of low August bill. Will have meter re-read to confirm. | 77.81 | 38.06 |
| N. Leighton Hall Lane, Surprise | 11/4/05 | High September and October water bills. | Low June – August bills resulted in the high September bill. Meter re-read – OK. Credit adjustment due to rate tiers. | 46.26 | 21.08 |
| W. Umbria Lane, | 10/5/05 | High bill complaint. | Due to prepay sewer charge on current bill. | 5.00 | 7.54 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|------------------------------------|-------------------|--|---|-----------------|---------------------------|
| Sun City West | | | No water service billing error. | | |
| N 155th Dr., Sun City West | 9/30/05 | High bill complaint. Can't reach CSR to discuss. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 25.44 | 15.71 |
| N. Trading Post Dr., Sun City West | 10/27/05 | High bills since March 2005. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. October and November usage also high; may be due to a leak. | 17.58 | 2.57 |
| N. Larkspur Ln., Surprise | 8/12/05 | High bill complaint. | Meter mis-read – underbilled in July. Account to be credited for overbilling due to rate tiers. | 30.00 | NA |
| N. Shinnekok Dr., Surprise | 11/2/05 | High bill complaint. No response from Company and no billing adjustment. | Account adjusted due to rate tiers. Customer received letter explaining adjustment after the complaint was received. (Note – the Company response to the complaint was dated 1/9/06) | 16.48 | 10.96 |
| Cimarron Court, Sun City | 8/26/05 | High bill complaint. | August usage seasonally high. Meter re-read – OK. Given \$10 courtesy adjustment. | 10.00 | 1.10 |
| N. Enchantment Dr., Surprise | 7/5/05 | High May water bill. Not happy with call center. | Waterfall leak. Meter re-read – OK. No adjustment. | 83.75 | 25.35 |
| W. Titan Dr., Sun City West | 11/3/05 | Low June & July water bills; high August & September water bills. Also, sewer bill too high. | Sewer adjustment due to incorrect prorating. Water adjustment due to mis-reads. | 20.56 | 6.50 |
| W. Silver Breeze Dr., Surprise | 10/24/05 | Overbilling for last four months. | Underbilled in June resulting in overbilling in July. Account to be credited for overbilling due to rate tiers. | 15.75 | 5.21 |
| W. Rivera Dr., | 8/17/05 | High July bill. | Meter mis-read. Will be adjusted to the rate | 51.75 | NA |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|------------------------------------|-------------------|--|---|-----------------|---------------------------|
| Surprise | | | tiers. | | |
| W. Ryans Way, Surprise | 10/21/05 | High September water bill. Unhappy with call center. | Expected to be adjusted through programmatic adjustment. | 36.48 | 6.15 |
| Summerstar Dr., Sun City West | 9/28/05 | High bill complaint. Can't reach anyone at the Company. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 79.10 | 17.58 |
| White Rock Dr., Sun City West | 9/27/05 | High bill complaint. Wonders if this is part of the old meter reading problem. Didn't like answer that it would take 3 weeks to address. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 64.47 | 19.75 |
| W. Morning Dove Dr., Sun City West | 9/27/05 | High bill complaint. Meter glass covered with dirt. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 26.37 | 7.85 |
| W. Honeysuckle, Surprise | 8/25/05 | High bill complaint. Unable to get through when calling the Company. | Underbilled in June, resulting in high July bill. Account to be credited for overbilling due to rate tiers. | 47.25 | 16.78 |
| N 168th St., Surprise | 10/20/05 | High bill complaint. Told it was due to a leak when called the call center. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 57.20 | 15.52 |
| W. Birdington Ln., Surprise | 8/11/05 | High bill complaint. Meter covered with dirt. Told that AAWC won't check for leaks. | Underbilled in prior month resulting in high August bill. Account to be credited for overbilling due to rate tiers. | 63.52 | 4.52 |
| W. Wind Crest Dr., Sun City West | 9/28/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 23.01 | 8.86 |
| Country Side Dr., | 10/7/05 | High September bill (high in May as well). Rude call | Underbilled in July and August, resulting in high September bill. Account to be credited | 10.28 | 3.10 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|----------------------------------|-------------------|--|---|-----------------|---------------------------|
| Sun City West | | center rep. | for overbilling due to rate tiers. | | |
| N. 136th Court, Sun City West | 10/5/05 | High bill complaint. No one has returned her calls. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 25.33 | 8.15 |
| W. Domingo Ln., Sun City West | 9/29/05 | High bill complaint. Difficulty reaching someone at the Company that he can talk to about the problem. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 24.30 | 13.25 |
| W. Blue Verde Dr., Sun City West | 9/30/05 | High bill complaint. Wonders if this is the same meter reading problem as before or a new one. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 30.50 | 3.35 |
| W. Rimrock, Surprise | 8/17/05 | High bill complaint. | Underbilled in June resulting in high July bill. Account to be credited for overbilling due to rate tiers. | 73.49 | 5.66 |
| 164th Ln., Surprise | 8/17/05 | High bill complaint. | Underbilled in July resulting in high August bill. Account to be credited for overbilling due to rate tiers. | 40.00 | NA |
| W. Sammy Way, Surprise | 10/20/05 | High bill complaint. Unhappy with Company response that they will look into the matter and get back to him within 30 days. | Will be adjusted programmatically. | 30.00 | 6.84 |
| W. Bonanza Dr., Sun City West | 9/22/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 62.82 | 12.31 |
| W. Futura Dr., Sun City West | 9/26/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 42.65 | 13.43 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|----------------------------------|-------------------|---|---|-----------------|---------------------------|
| W. Mahogany, Surprise | 10/13/05 | Doesn't think that anyone is reading his meter and that the last three bills have been incorrect. | Will be adjusted programmatically. | 30.84 | 8.02 |
| W. Gable Hill Dr., Sun City West | 10/3/05 | High bill complaint. No call back from the Company. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 20.16 | 5.66 |
| N. 124th Dr., Sun City West | 9/28/05 | High bill complaint. Cut-off when called the call center. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 21.71 | 14.40 |
| Meadow Dr., Sun City West | 9/23/05 | High bill complaint – September and June. Claims to never see a meter reader. | Meter to be re-read per telephone call to customer. (No Company response documented in the ACC complaint file). | 33.86 | 12.85 |
| Skyview Dr., Sun City West | 9/16/05 | High bill complaint. Wants meter re-read. | Meter mis-read and account credited for overbilling due to rate tiers. | 41.87 | 17.35 |
| W. Skyview Dr., Sun City West | 9/28/05 | High bill complaint. CSR not helpful. | Will be adjusted programmatically. | 25.00 | 13.79 |
| N. Skyview Dr., Sun City West | 9/26/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 44.89 | 10.00 |
| N 129th Ave., Sun City West | 9/26/05 | High bill complaint. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 21.20 | 5.42. |
| W. Campana, Sun City | 11/1/05 | High bill complaint. Appalled by lack of customer service. | Doesn't believe it is due to the mis-read problem. Requested a one-time unexplained usage credit. | 36.85 | 12.28 |
| Sky Hawk Dr., Sun City West | 10/5/05 | High bill complaint (\$44 vs \$30). | Customer did not contact the Company so no response. | 8.78 | 0.83 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|--------------------------------|-------------------|---|---|-----------------|---------------------------|
| N Kimberly Way, Surprise | 11/2/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 33.16 | 5.88 |
| W. Cholla Trail, Buckeye | 1/6/06 | Two high bills at new and still vacant residence. Could not reach anyone using the 800 number. | Property is being irrigated. Explained bill. No longer thinks he has a problem. | 0.00 | 0.00 |
| W. Lachlin Ct., Surprise | 10/7/05 | Pattern of low bills followed by high bills resulting in overcharges due to rate tiers. | No response. | 41.86 | 18.54 |
| Caraway, Sun City West | 10/13/05 | High September bill. No one has gotten back to him. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 42.91 | 12.83 |
| Sky Hawk Dr., Sun City West | 10/13/05 | High September bill. Called Company and told that someone would get back to him, but they haven't yet. | No response | 22.23 | 6.79 |
| W. Antelope Dr., Sun City West | 9/26/05 | High and low bill complaint. Told that maybe he had a leak. (Low April bill followed by a high May bill and a low August bill followed by a high September bill). Customer not satisfied with adjustment made; didn't go back far enough. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 23.78 | 15.01 |
| Heritage Dr., Sun City West | 9/28/05 | High bill complaint. Called the 800 number and was hung-up on twice. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 36.77 | 1.24 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|----------------------------------|-------------------|--|---|-----------------|---------------------------|
| W. Whitewood Dr., Sun City West | 11/1/05 | High September bill. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 25.59 | 15.18 |
| W. Pine Tree Dr., Sun City West | 10/25/05 | High bill complaint. Wonders why it takes 30 days to be resolved. | No response documented. | 55.84 | 1.87 |
| N. 135th Ave., Sun City West | 10/24/05 | High September bill | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 39.81 | 14.23 |
| W. Buttonwood Dr., Sun City West | 10/11/05 | High August bill. Never called back. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 19.39 | 2.92 |
| Meadowood Dr., Sun City West | 9/29/05 | High September bill. Dirty meter – can't be read. No response from Company. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 35.67 | 9.35 |
| W. Mesa Verde Dr., Sun City West | 9/30/05 | High September bill. No response as promised. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 54.80 | 14.11 |
| Stardust Blvd., Sun City West | 9/29/05 | High September bill. No response as promised. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 34.90 | 0.98 |
| W. Cameron Circle, Surprise | 12/14/05 | Receives two bills per month – both high. | Customer has been receiving shut-off notices as well as regular bills. Usage in line. | NA | 0.00 |
| N. 143rd Ave., Sun City West | 9/27/05 | Low July and August bills followed by high September bill – doesn't make sense. Dirty meter – couldn't have been read. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 18.87 | 2.09 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|--|----------------------|--|---|-----------------|---------------------------|
| W. Tartan Dr., Sun City West | 9/23/05 | High bill complaint. Difficulty reaching anyone by telephone. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 14.48 | 4.61 |
| W. Charnwood Ct., Sun City | 11/25/05 | High bill complaint. Poor customer service. | Re-read meter – OK. | 10.00 | 13.63 |
| Castlebar Dr., Sun City | 11/9/05 | High September bill. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 51.96 | 2.54 |
| N. 141st Dr., Sun City West | 7/12/05 | High June bill. | Found small service line leak. Given a one- time courtesy adjustment. | 49.63 | 8.57 |
| W. Alegro Ct., Sun City West | 10/12/05 12/19/05 | High bill complaint. Meter covered with dirt. Told she had a leak – checked and small leak found. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. Changed out meter at customer's request – waived fee. | 9.00 | 2.62 |
| White Wood Dr., Sun City West | 10/6/05 11/23/05 | High September bill. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 18.61 | 7.06 |
| N. 105 th Ave., Sun City | 11/18/05 | Two high bills. Company has not called customer back | Re-read meter (reported as a billing exception) – OK. | 87.99 | 14.61 |
| W. Ventura St., Surprise | 10/14/05 | High bill complaint. Doesn't understand why no one can read his meter until the 31 st . | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 24.25 | 21.14 |
| W. Battle Tree Ave., Surprise | 8/3/05 | High bill complaint. | Re-read meter – OK. | 0.00 | 4.14 |
| W. Camino del Sol, Sun City West | 9/22/05 | High bill complaint. No one got back to him. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 0.00 | 0.00 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|---|-------------------|--|--|-----------------|---------------------------|
| N. Eureka Trail, Surprise | 8/22/05 | High bill complaint. Many different explanations offered by Company. | See below | 69.64 | 18.47 |
| W. Briarwood Circle North, Sun City | 9/27/05 | High bill complaint. Not satisfied with answer provided by call center rep. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 2.20 | 0.16 |
| Regal Dr., Sun City West | 9/15/05 | High bill complaint. Told he could have a leak. | Received credit for 12 thousand gallons. | 22.23 | 24.03 |
| West Blue Bonnett Drive, Sun City West | 10/3/05 | High bill complaint. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 5.14 | 0.46 |
| N. 123 rd Dr., Sun City West | 10/17/05 | High bills in April and September. Not contacted as promised. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 11.37 | 1.45 |
| W. Silver Breeze Dr., Surprise | 10/24/05 | Overbilling complaint. Company never called back. | Underbilled in June, resulting in high July bill. Account to be credited for overbilling due to rate tiers. | 15.75 | 5.21 |
| W. Bridlington Ln., Surprise | 8/29/05 | High bill complaint. Tech investigated and informed customer they had leak, but bill went down next month. | Re-checked meter and noticed movement indicating a possible leak. Received two \$20 credits (possible mis-read). | \$40.00 | NA |
| N. Canyon Whisper Drive, Surprise | 9/23/05 | High bill complaint. | Underbilled in July, resulting in high August bill. Account to be credited for overbilling due to rate tiers. | 40.21 | 1.74 |
| W. White Rock Dr., Sun City West | 8/26/05 | Meter under-read last two months. | Underbilled in June and July, resulting in high August bill. Account to be credited for overbilling due to rate tiers. | 21.71 | 0.48 |
| N. 147 th Dr., Sun City West | 10/3/05 | High bill complaint. Company never called | Underbilled in July and August, resulting in high September bill. Account to be credited | 21.20 | 1.32 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|-----------------------------------|-------------------|--|--|-----------------|---------------------------|
| | | back. | for overbilling due to rate tiers. | | |
| W. Lea Ln., Surprise | 8/31/05 | High July bill. | Underbilled in June, resulting in high July bill. Account to be credited for overbilling due to rate tiers. | 19.90 | 9.43 |
| N. Eureka Trail, Surprise | 8/24/05 | Mis-read meters. | Underbilled in June, resulting in high July bill. Account to be credited for overbilling due to rate tiers. | 24.87 | 1.43 |
| W. Country Side, Sun City West | 9/30/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 0.00 | 4.76 |
| N. Kimberly Way, Surprise | 10/19/05 | High bill complaints (June and September). | Underbilled in July, resulting in high August bill. Account to be credited for overbilling due to rate tiers. | 77.10 | 15.68 |
| W. Whitewood Dr., Sun City West | 11/1/05 | Disputed billings. | Re-read meter – OK. Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 37.74 | 11.07 |
| W. Caribbean Ln., Surprise | 10/6/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 78.76 | 2.52 |
| N. Stonegate, Sun City West | 9/19/05 | High bill complaint. Usage increases when rental property is vacant. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. Meter tested and found to be slow; fee waived. | 68.76 | 12.08 |
| W. Skyview Dr., Sun City West | 9/26/05 | High bill complaint. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 41.87 | 35.04 |
| W. Limewood Dr., Sun City West | 10/14/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited | 20.27 | 9.82 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|------------------------------------|-------------------|---|---|-----------------|---------------------------|
| W. Caribbean Ln., Surprise | 11/4/05 | Triple billed in September. | for overbilling due to rate tiers. | | |
| W. Eucalyptus Ct., Surprise | 9/15/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 92.43 | 44.07 |
| Las Pueblo, Bullhead City | 8/5/05 | High bill complaint. | Underbilled in August, resulting in high September bill. | 21.45 | 17.02 |
| N. Cameo Pt., Sun City | 9/27/05 | Customer disputing peaks and valleys in bills. | Meter re-read – no movement detected. Suggested there may be a possible leak in irrigation system. Courtesy adjustment given. | 22.81 | NA |
| N. Leighton Hall Ln., Surprise | 10/21/05 | Billing problems since December 2004. | Underbilled in June resulting in high July bill. Account to be credited for overbilling due to rate tiers. | 22.37 | 1.54 |
| Pennystone, Sun City West | 9/26/05 | High bill complaint. | Underbilled in June, July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 29.02 | 20.10 |
| Meadowood Dr., Sun City West | 9/27/05 | Bill fluctuation. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 24.04 | 8.10 |
| N. 168 th Ln., Surprise | 12/6/05 | High bill complaint. No one has returned the customer's call. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 40.58 | 0.00 |
| N. Enchantment Dr., Surprise | 9/2/05 | High bill complaint. Meter reading errors. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 190.00 | 5.68 |
| N. 164 th Ln., | 9/8/05 | High bill complaint (July) | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 83.75 | 0.63 |
| | | | Underbilled in June resulting in high July | 60.00 | 24.79 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|--|-------------------|---|--|-----------------|---------------------------|
| Surprise | | bill). | bill. Account credited for \$10 by disputes department. Customer not satisfied. Additional \$50 credit given for overbilling due to rate tiers. | | |
| W. Casa Linda Dr., Sun City West | 10/13/05 | High bill complaint. Disliked recorded message. Prefers to receive a refund rather than a credit. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 49.89 | 11.27 |
| 15832 N. 164 th Ln., Surprise | 9/8/05 | High bill complaint (July). | Underbilled in June resulting in high July bill. Account credited for \$10 by disputes department. Customer not satisfied. Additional \$30 credit given for overbilling due to rate tiers. | 40.00 | 3.49 |
| W. Blue Bonnet Dr., Sun City West | 9/19/05 | High bill complaint. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 21.71 | 4.28 |
| N. 124 th Dr., Sun City West | 12/16/05 | Billing complaint - erratic usage billed. | Some of the erratic billing may be due to differing number of days billed each month. Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 5.57 | 0.04 |
| Spring Ridge Dr., Sun City West | 10/6/05 | High bills since June. No call back. Dirty meter. | Account to be credited for overbilling due to rate tiers. | 12.41 | 2.28 |
| N. Flowing Springs Dr., Surprise | 10/27/05 | High bill complaint. Also complaining about high sewer and trash removal rates. | Underbilled resulting in high bill. Received courtesy adjustment of \$30.00. Sewer bill improperly prorated. Leak during July. | 30.00 | 19.25 |
| N. Crown Point, Sun City | 10/25/05 | High bill complaint. | Underbilled in June resulting in high July bill. Account to be credited for overbilling due to rate tiers. This account was reported as a billing exception in July and was re- | 44.31 | 13.50 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|---------------------------------|-------------------|--|--|-----------------|---------------------------|
| | | | read. | | |
| N. Eureka Trail, Surprise | 9/12/05 | On 8/22 she reported that she and her neighbors did not believe their meters were being read. Fraud. | Customer informed that internal investigation was underway. Customer account adjusted. | 69.64 | 18.47 |
| W. Maui Ln., Surprise | 1/4/06 | High bill complaint. Never received adjustment as promised. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 47.51 | 17.22 |
| N. Bunt Line Dr., Sun City West | 9/20/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 119.94 | 43.36 |
| W. Sky Hawk Dr., Sun City West | 9/28/05 | High bill complaint. Concern that water meter was not being read. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 10.00 | 1.75 |
| W. Huron, Sun City West | 8/25/05 | High bill complaint. | Underbilled in July, resulting in high August bill. Account to be credited for overbilling due to rate tiers. | 0.00 | 0.00 |
| Aleppo Drive, Sun City West | 11/29/05 | High bill complaint. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 33.41 | 20.92 |
| W. Indigo Ln., Surprise | 10/27/05 | Wonders why he is always billed the same amount – either \$14.67, \$25.41 or \$18.52. | Discussed with customer – no adjustment required. | NA | 1.34 |
| W. Camino Real, Surprise | 7/28/05 | High bill complaint | Underbilled in May and June, resulting in high July bill. Asked disputes department to make adjustment. Talked to senior meter reader regarding meter reading problems and impact on customer bills. | 30.00 | 11.75 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|-----------------------------------|-------------------|---|---|-----------------|---------------------------|
| N. Eureka Rd., Surprise | 8/26/05 | Concerned that meter is not being read. Also, high August bill. | Underbilled in July, resulting in high August bill. Account to be credited for overbilling due to rate tiers. | 10.00 | 8.35 |
| W. Hyacinth Dr., Sun City West | 9/19/05 | High bill complaint. | Underbilled resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 12.15 | 6.56 |
| Springdale Dr., Sun City West | 9/28/05 | High bill complaint. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 10.00 | 8.19 |
| W. Hardwood Dr., Sun City West | 10/25/05 | Question regarding increase in ground water withdrawal fee. Unable to get through to Company. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. Explained bill and adjustments to customer. | 47.56 | 5.51 |
| Surprise | 7/12/05 | High bill complaint. Injured reading meter. Frustration over call center handling of customer call. | Cancelled and rebilled account. \$50 initial courtesy adjustment. Final adjustment of \$250. | 300.00 | 0.28 |
| W. Parkwood Dr., Sun City West | 10/12/05 | High bill complaint (August). | Disagree that usage is out of line, but granted a \$5 courtesy adjustment. | 5.00 | 0.90 |
| W. Sky Hawk Dr., Sun City West | 10/13/05 | High bill complaint. Dissatisfied with Company response. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 15.77 | 3.15 |
| W. Whitewood Dr., Sun City West | 8/29/05 | Complaint that meter has not been read. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 22.49 | 3.13 |
| W. Utica Dr., Sun City West | 9/28/05 | High bill complaint. Wants graph of usage history for last six months. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 10.00 | 1.23 |
| W. Mahogany | 11/14/05 | High bill complaint. | Underbilled in June and August, resulting in | 30.84 | 19.68 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|--|-------------------|--|---|-----------------|---------------------------|
| Way. Surprise | | | higher bills in July and September. Account to be credited for overbilling due to rate tiers. | | |
| Caraway, Sun City West | 9/19/05 | High bill complaint. | No response from Company. | 27.14 | 5.90 |
| N. 181 st Ave., Waddell | 9/27/05 | Meter reading problems resulting in high bills. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 184.04 | 13.69 |
| W. Kiowa Trail, Surprise | 11/17/05 | High bill complaint. | Credits applied to account. | 3.62 | 8.18 |
| W. Sky Hawk Dr., Sun City West | 10/28/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 7.71 | 2.38 |
| W. Rampart Dr., Sun City West | 11/7/05 | High bill complaint. Dissatisfied with Company response. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. Possible leaf since both September and October bills were high. | 45.61 | NA |
| Sky Hawk Dr., Sun City West | 11/7/05 | High bill complaint. No credits received. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 9.00 | 2.63 |
| N. 135 th Ave., Sun City West | 11/17/05 | High bill complaint. CSRs not polite. | Underbilled in August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 7.28 | 8.47 |
| Sentinel Drive, Sun City West | 7/25/05 | Meter reading concerns – inconsistent usage from month to month. | Senior meter reader sent to re-read meter and talk with customer. Credit issued. | 16.29 | 4.31 |
| W. Marble Dr., Sun City West | 10/21/05 | Meter reading problems. Problem with credit. | Underbilled in July and August, resulting in high September bill. Account to be credited | 36.71 | 35.32 |

Appendix B
Arizona-American Water – Meter Reading and Billing Investigation
Customer Complaint Summary

| Address | Date of Complaint | Nature of Complaint | Utility Response | Credit Received | BWG-Calculated Credit Due |
|---------------------------------------|-------------------|--|---|-------------------|---------------------------|
| N. 174 th Ln., Surprise | 11/1/05 | High bill complaint (2 bills). | for overbilling due to rate tiers. | | |
| W. Amigo Dr., Sun City West | 9/15/05 | High bill complaint. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 27.36 | 4.88 |
| W. Hatcher Rd., Sun City | 6/16/05 | High bill complaint (June bill). Rude treatment by CSRs. | Underbilled in July and August, resulting in high September bill. Account to be credited for overbilling due to rate tiers. | 16.90 | 1.61 |
| Villa Arroyo, Bullhead City | 11/7/05 | High bill complaint. Doesn't believe the meter has actually been read. | Courtesy adjustment issued. Believed to be customer problem. May have been a mis-read meter. (Explanation not clear) | 32.74 | 15.80 |
| TOTAL | | | | \$6,142.40 | \$1,574.68 |

ARIZONA-AMERICAN WATER COMPANY
METER READING AND BILLING INVESTIGATION

APPENDIX C
**ASSIGNMENT OF METER READERS BY MASTER
ROUTE**

Purpose of Appendix C

The purpose of this Appendix is to show the meter readers (by meter reader number) assigned to read specific meter reading master routes by month for the period January 2003 through November 2005.

As can be seen by the highlighted rows, the same meter readers were assigned to read the same meter reading master routes in July 2005 and August 2005.

Appendix C
Assignment of Meter Readers by Master Route

| Month | | Route 1 | Route 2 | Route 3 | Route 4 | Route 5 | Route 6 | Route 7 |
|-----------------|--|---------|---------|---------|---------|---------|---------|---------|
| Meter Reader No | | | | | | | | |
| Jan 03 | | 4 | 5 | 6 | 1 | 2 | 3 | |
| Feb 03 | | 3 | 4 | 5 | 6 | 1 | 2 | |
| Mar 03 | | 2 | 3 | 4 | 5 | 6 | 1 | |
| Apr 03 | | 1 | 2 | 3 | 4 | 5 | 6 | |
| May 03 | | 6 | 1 | 2 | 3 | 4 | 5 | |
| June 03 | | 5 | 6 | 1 | 2 | 3 | 4 | |
| July 03 | | 4 | 5 | 6 | 1 | 2 | 3 | |
| Aug 03 | | 3 | 4 | 8 | 6 | 1 | 2 | |
| Sep 03 | | 2 | 8 | 4 | 3 | 6 | 1 | |
| Oct 03 | | 6 | 2 | 8 | 4 | 3 | 1 | |
| Nov 03 | | 1 | 7 | 2 | 8 | 4 | 3 | |
| Dec 03 | | 3 | 1 | 7 | 2 | 8 | 4 | |
| | | | | | | | | |
| Jan 04 | | 4 | 3 | 1 | 7 | 2 | 8 | |
| Feb 04 | | 8 | 4 | 3 | 1 | 7 | 2 | |
| Mar 04 | | 2 | 8 | 4 | 3 | 1 | 7 | |
| Apr 04 | | 1 | 8 | 7 | 4 | 3 | 2 | |
| May 04 | | 3 | 9 | 2 | 7 | 4 | 1 | |
| June 04 | | 3 | 9 | 4 | 2 | 7 | 1 | |
| July 04 | | 7 | 13 | 4 | 14 | 2 | 1 | |
| Aug 04 | | 2 | 21 | 13 | 14 | 4 | 1 | |
| Sep 04 | | 1 | 12 | 2 | 13 | 14 | 4 | |
| Oct 04 | | 4 | 1 | 12 | 2 | 13 | 14 | |
| Nov 04 | | 14 | 4 | 1 | 12 | 2 | 13 | |
| Dec 04 | | 13 | 14 | 4 | 1 | 12 | 2 | |
| | | | | | | | | |
| Jan 05 | | 1 | 2 | 14 | 4 | 13 | 12 | |
| Feb 05 | | 15 | 12 | 2 | 14 | 4 | 13 | |
| Mar 05 | | 13 | 15 | 17 | 4 | 14 | 12 | |
| Apr 05 | | 12 | 13 | 15 | 16 | 17 | 14 | |
| May 05 | | 14 | 12 | 13 | 15 | 16 | 17 | |
| June 05 | | 17 | 14 | 12 | 13 | 15 | 16 | |

Appendix C
Assignment of Meter Readers by Master Route

| Month | | Route 1 | Route 2 | Route 3 | Route 4 | Route 5 | Route 6 | Route 7 |
|---------|--|---------|---------|---------|---------|---------|---------|---------|
| July 05 | | 4 | 18 | 17 | 16 | 13 | 15 | 14 |
| Aug 05 | | 4 | 18 | 17 | 16 | 13 | 15 | 14 |
| Sep 05 | | 13 | 4 | 16 | 17 | 18 | 15 | 14 |
| Oct 05 | | 18 | 17 | 4 | 16 | 13 | 14 | 15 |
| Nov 05 | | 16 | 17 | 19 | 13 | 4 | 20 | 14 |

ARIZONA-AMERICAN WATER COMPANY
METER READING AND BILLING INVESTIGATION

APPENDIX D
WATER VOLUME BILLING ANALYSIS
– TWO ACCOUNTS

Purpose of Appendix D

The purpose of this Appendix is to show billing detail for two specific accounts for which customers provided copies of the water bills from 2002 through early 2006. Using the bill detail provided, BWG examined variances in consumption from month to month. In the event that the change in consumption from one month to another was large enough to cause the subsequent month to have consumption billed at a higher rate step, BWG assumed the variance was due to a meter reading error and that the customer was overbilled. This assumption works to the customer's advantage.

Based on this assumption, one customer was due a refund of \$9.99 and the other a refund of \$2.99. This refund calculation included those months in 2005 which were the focus of this investigation. These refund amounts are significantly less than the refunds provided by the Company.

APPENDIX D

Water Volume Billing Analysis
Account 1

| Bill Date | 1/28/2002 | 2/26/2002 | 3/26/2002 | 4/24/2002 | 5/24/2002 | 6/26/2002 | 7/25/2002 | 8/27/2002 | 9/27/2002 |
|------------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Billing Period | 12/21-1/23 | 1/23-2/22 | 2/22-3/22 | 3/22-4/22 | 4/22-5/22 | 5/22-6/24 | 6/24-7/23 | 7/23-8/23 | 8/23-9/25 |
| # of Days | 33 | 30 | 28 | 31 | 30 | 33 | 29 | 31 | 33 |
| Volume | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Rate | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 |
| Amount | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 |
| Volume | 3 | 2 | 0 | 6 | 24 | 14 | 8 | 9 | 11 |
| Rate | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 |
| Amount | \$ 6.72 | \$ 4.48 | \$ - | \$ 13.44 | \$ 53.76 | \$ 31.36 | \$ 17.92 | \$ 20.16 | \$ 24.64 |
| Volume | | | | | | | | | |
| Rate | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Amount | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total TG | 11 | 10 | 8 | 14 | 32 | 22 | 16 | 17 | 19 |
| Total \$ | \$ 20.96 | \$ 18.72 | \$ 14.24 | \$ 27.68 | \$ 68.00 | \$ 45.60 | \$ 32.16 | \$ 34.40 | \$ 38.88 |
| Total Refund Due | \$ 9.99 | | | | | | | | |

APPENDIX D

Water Volume Billing Analysis
Account 1

| Bill Date | 10/25/2002 | 11/27/2002 | 12/27/2002 | 1/28/2003 | 2/26/2003 | 3/27/2002 | 4/25/2003 | 5/28/2003 | 6/26/2003 |
|-------------------------|-------------------------------|-------------|-------------|------------|-----------|-----------|-----------|-----------|-----------|
| Billing Period | 9/25-10/23 | 10/23-11/25 | 11/25-12/24 | 12/24-1/24 | 1/24-2/25 | 2/25-3/25 | 3/25-4/23 | 4/23-5/23 | 5/23-6/24 |
| # of Days | 28 | 33 | 29 | 31 | 32 | 28 | 29 | 30 | 32 |
| Volume | 8 | 8 | 8 | 8 | 6 | 6 | 8 | 5 | 8 |
| Rate | 1.78 | 1.78 | 1.78 | 1.78 | 1.78 | 1.78 | 1.78 | 1.78 | 1.78 |
| Amount | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 10.68 | \$ 10.68 | \$ 14.24 | \$ 8.90 | \$ 14.24 |
| Volume | 8 | 10 | 4 | 2 | 0 | 0 | 0 | 0 | 9 |
| Rate | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |
| Amount | \$ 17.92 | \$ 22.40 | \$ 8.96 | \$ 4.48 | \$ - | \$ - | \$ - | \$ - | \$ 20.16 |
| Volume | | | | | | | | | |
| Rate | | | | | | | | | |
| Amount | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total TG | 16 | 18 | 12 | 10 | 6 | 6 | 8 | 5 | 17 |
| Total \$ | \$ 32.16 | \$ 36.64 | \$ 23.20 | \$ 18.72 | \$ 10.68 | \$ 10.68 | \$ 14.24 | \$ 8.90 | \$ 34.40 |
| Total Refund Due | 3 Volume Overbilled | | | | | | | | |

APPENDIX D

Water Volume Billing Analysis
Account 1

| Bill Date | Billing Period | # of Days | 7/25/2003 6/24-7/23 | 8/22/2003 7/23-8/20 | 9/24/2003 8/20-9/22 | 10/23/2003 9/22-10/21 | 11/24/2003 10/21-11/20 | 12/24/2003 11/20-12/22 | 1/28/2004 12/22-1/26 | 2/25/2004 1/26-2/23 | 3/25/2004 2/23-3/23 |
|-------------------------|----------------|-----------|-----------------------------------|------------------------|------------------------|--------------------------|---------------------------|---------------------------|-------------------------|------------------------|------------------------|
| | | | 29 | 28 | 33 | 29 | 30 | 32 | 35 | 28 | 29 |
| Volume | | | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 8 |
| Rate | | | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 |
| Amount | | | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 12.46 | \$ 14.24 |
| Volume | | | 3 | 7 | 8 | 6 | 4 | 4 | 4 | 0 | 0 |
| Rate | | | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 |
| Amount | | | \$ 6.72 | \$ 15.68 | \$ 17.92 | \$ 13.44 | \$ 8.96 | \$ 8.96 | \$ 8.96 | \$ - | \$ - |
| Volume | | | | | | | | | | | |
| Rate | | | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Amount | | | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total TG | | | 11 | 15 | 16 | 14 | 12 | 12 | 12 | 7 | 8 |
| Total \$ | | | \$ 20.96 | \$ 29.92 | \$ 32.16 | \$ 27.68 | \$ 23.20 | \$ 23.20 | \$ 23.20 | \$ 12.46 | \$ 14.24 |
| Total Refund Due | | | \$ 0.46 | \$ 1.38 | | | | | | | |
| | | | Rate Difference Amount Overbilled | | | | | | | | |

APPENDIX D

Water Volume Billing Analysis
Account 1

| Bill Date | Billing Period | # of Days | Volume | Rate | Amount | Volume | Rate | Amount | Volume | Rate | Amount | Volume | Rate | Amount | Volume | Rate | Amount | Volume | Rate | Amount | Volume | Rate | Amount |
|------------|----------------|-----------|--------|-------|-----------|--------|-------|-----------|--------|-------|-----------|--------|-------|-----------|--------|-------|-----------|--------|-------|-----------|--------|-------|-----------|
| 4/27/2004 | 3/23-4/22 | 30 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 |
| 5/26/2004 | 4/22-5/24 | 32 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 |
| 6/25/2004 | 5/24-6/23 | 30 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 |
| 7/28/2004 | 6/23-7/23 | 30 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 |
| 8/27/2004 | 7/23-8/25 | 33 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 |
| 9/28/2004 | 8/25-9/24 | 30 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 |
| 10/28/2004 | 9/24-10/26 | 32 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 | 8 | 1.78 | \$ 14.24 |
| Volume | | | 7 | 2.24 | \$ 15.68 | 7 | 2.24 | \$ 15.68 | 7 | 2.24 | \$ 15.68 | 7 | 2.24 | \$ 15.68 | 7 | 2.24 | \$ 15.68 | 7 | 2.24 | \$ 15.68 | 7 | 2.24 | \$ 15.68 |
| Rate | | | 16 | 2.24 | \$ 35.84 | 16 | 2.24 | \$ 35.84 | 16 | 2.24 | \$ 35.84 | 16 | 2.24 | \$ 35.84 | 16 | 2.24 | \$ 35.84 | 16 | 2.24 | \$ 35.84 | 16 | 2.24 | \$ 35.84 |
| Amount | | | 10 | 2.24 | \$ 22.40 | 10 | 2.24 | \$ 22.40 | 10 | 2.24 | \$ 22.40 | 10 | 2.24 | \$ 22.40 | 10 | 2.24 | \$ 22.40 | 10 | 2.24 | \$ 22.40 | 10 | 2.24 | \$ 22.40 |
| Volume | | | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 |
| Rate | | | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 |
| Amount | | | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 | 5 | 2.487 | \$ 12.44 |
| Total TG | | | 15 | 29.92 | \$ 448.80 | 15 | 29.92 | \$ 448.80 | 15 | 29.92 | \$ 448.80 | 15 | 29.92 | \$ 448.80 | 15 | 29.92 | \$ 448.80 | 15 | 29.92 | \$ 448.80 | 15 | 29.92 | \$ 448.80 |
| Total \$ | | | 18 | 36.64 | \$ 659.52 | 18 | 36.64 | \$ 659.52 | 18 | 36.64 | \$ 659.52 | 18 | 36.64 | \$ 659.52 | 18 | 36.64 | \$ 659.52 | 18 | 36.64 | \$ 659.52 | 18 | 36.64 | \$ 659.52 |

Total Refund Due

Volume Overbilled Rate Difference Amount Overbilled
\$ 4.77

APPENDIX D

Water Volume Billing Analysis
Account 1

| Bill Date Billing Period # of Days | 11/30/2004 10/26-11/24 29 | 1/3/2005 1/24-12/27 33 | 2/1/2005 12/27-1/25 4 | 2/25/2005 1/25-2/23 29 | 3/28/2005 2/23-3/24 29 | 4/27/2005 3/24-4/25 32 | 5/27/2005 4/25-5/24 29 | 6/28/2005 5/24-6/24 31 | 7/28/2005 6/24-7/26 32 |
|--|---------------------------------|------------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Volume | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 |
| Rate | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 |
| Amount | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 4.14 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 |
| Volume | 5 | 5 | 2 | 0 | 9 | 9 | 9 | 0 | 9 |
| Rate | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 |
| Amount | \$ 10.30 | \$ 10.30 | \$ 4.12 | \$ - | \$ 18.54 | \$ 18.54 | \$ 18.54 | \$ - | \$ 18.54 |
| Volume | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 28 |
| Rate | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 |
| Amount | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 2.49 | \$ 7.46 | \$ - | \$ 69.64 |
| Total TG | 9 | 9 | 6 | 3 | 13 | 14 | 16 | 4 | 41 |
| Total \$ | \$ 15.82 | \$ 15.82 | \$ 9.64 | \$ 4.14 | \$ 24.06 | \$ 26.55 | \$ 31.52 | \$ 5.52 | \$ 93.70 |

Total Refund Due

9 0.427
Volume Overbilled Rate Difference

APPENDIX D

Water Volume Billing Analysis
Account 2

| Bill Date | 12/27/2002 | 1/28/2003 | 2/28/2003 | 3/27/2002 | 4/25/2003 | 5/28/2003 | 6/26/2003 | 7/25/2003 | 8/22/2003 | 9/24/2003 | 10/23/2003 |
|----------------|-------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Billing Period | 11/25-12/24 | 12/24-1/24 | 1/24-2/25 | 2/25-3/25 | 3/25-4/23 | 4/23-5/23 | 5/23-6/24 | 6/24-7/23 | 7/23-8/20 | 8/20-9/22 | 9/22-10/21 |
| # of Days | 29 | 31 | 32 | 28 | 29 | 30 | 32 | 29 | 28 | 33 | 29 |
| Volume | 4 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Rate | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 |
| Amount | \$ 7.12 | \$ 12.46 | \$ 12.46 | \$ 12.46 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 |
| Volume | 0 | 0 | 0 | 0 | 3 | 4 | 12 | 11 | 6 | 7 | 5 |
| Rate | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 |
| Amount | \$ - | \$ - | \$ - | \$ - | \$ 6.72 | \$ 8.96 | \$ 26.88 | \$ 24.64 | \$ 13.44 | \$ 15.68 | \$ 11.20 |
| Volume | | | | | | | | | | | |
| Rate | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Amount | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total TG | 4 | 7 | 7 | 7 | 11 | 12 | 20 | 19 | 14 | 15 | 13 |
| Total \$ | \$ 7.12 | \$ 12.46 | \$ 12.46 | \$ 12.46 | \$ 20.96 | \$ 23.20 | \$ 41.12 | \$ 38.88 | \$ 27.68 | \$ 29.92 | \$ 25.44 |

Total Refund Due \$ 2.99

APPENDIX D

Water Volume Billing Analysis
Account 2

| Bill Date Billing Period # of Days | 11/24/2003 10/21-11/20 30 | 12/24/2003 11/20-12/22 32 | 1/28/2004 12/22-1/26 35 | 2/25/2004 1/26-2/23 28 | 3/25/2004 2/23-3/23 29 | 4/27/2004 3/23-4/22 30 | 5/26/2004 4/22-5/24 32 | 6/25/2004 5/24-6/23 30 | 7/28/2004 6/23-7/23 30 | 7/28/2004 6/23-7/23 30 | 7/28/2004 6/23-7/23 30 |
|--|---------------------------------|---------------------------------|-------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Volume | 8 | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 8 | 2 | 3 |
| Rate | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.78 | \$ 1.38 |
| Amount | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 12.46 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 14.24 | \$ 3.56 | \$ 4.14 |
| Volume | 3 | 3 | 3 | 0 | 4 | 3 | 7 | 11 | 2 | 2 | 7 |
| Rate | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.24 | \$ 2.06 |
| Amount | \$ 6.72 | \$ 6.72 | \$ 6.72 | \$ - | \$ 8.96 | \$ 6.72 | \$ 15.68 | \$ 24.64 | \$ 4.48 | \$ 4.48 | \$ 14.42 |
| Volume | | | | | | | | | | | 3 |
| Rate | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 2.487 |
| Amount | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 7.46 |
| Total TG | 11 | 11 | 11 | 7 | 12 | 11 | 15 | 19 | 4 | 4 | 13 |
| Total \$ | \$ 20.96 | \$ 20.96 | \$ 20.96 | \$ 12.46 | \$ 23.20 | \$ 20.96 | \$ 29.92 | \$ 38.88 | \$ 8.04 | \$ 8.04 | \$ 26.02 |
| Total Refund Due | | | | | | | | | | | \$ 34.06 |

APPENDIX D

Water Volume Billing Analysis
Account 2

| Bill Date | 8/27/2004 | 9/28/2004 | 10/28/2004 | 11/30/2004 | 1/3/2005 | 2/1/2005 | 2/25/2005 | 3/28/2005 | 4/27/2005 | 5/27/2005 | 6/28/2005 |
|----------------|-----------|-----------|------------|-------------|-------------|------------|-----------|-----------|-----------|-----------|-----------|
| Billing Period | 7/23-8/25 | 8/25-9/24 | 9/24-10/26 | 10/26-11/24 | 11/24-12/27 | 12/27-1/25 | 1/25-2/23 | 2/23-3/24 | 3/24-4/25 | 4/25-5/24 | 5/24-6/24 |
| # of Days | 33 | 30 | 32 | 29 | 33 | 29 | 29 | 29 | 32 | 29 | 31 |
| Volume | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Rate | \$ 1.38 | \$ 1.38 | \$ 1.38 | \$ 1.38 | \$ 1.38 | \$ 1.38 | \$ 1.38 | \$ 1.38 | \$ 1.38 | \$ 1.38 | \$ 1.38 |
| Amount | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 |
| Volume | 9 | 9 | 9 | 7 | 9 | 5 | 2 | 2 | 8 | 9 | 2 |
| Rate | \$ 2.06 | \$ 2.06 | \$ 2.06 | \$ 2.06 | \$ 2.06 | \$ 2.06 | \$ 2.06 | \$ 2.06 | \$ 2.06 | \$ 2.06 | \$ 2.06 |
| Amount | \$ 18.54 | \$ 18.54 | \$ 18.54 | \$ 14.42 | \$ 18.54 | \$ 10.30 | \$ 4.12 | \$ 16.48 | \$ 18.54 | \$ 16.48 | \$ 4.12 |
| Volume | 4 | 4 | 3 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 |
| Rate | \$ 2.487 | \$ 2.487 | \$ 2.487 | \$ 2.487 | \$ 2.487 | \$ 2.487 | \$ 2.487 | \$ 2.487 | \$ 2.487 | \$ 2.487 | \$ 2.487 |
| Amount | \$ 9.95 | \$ 9.95 | \$ 7.46 | \$ - | \$ 4.97 | \$ - | \$ - | \$ - | \$ 7.46 | \$ - | \$ - |
| Total TG | \$ 34.01 | \$ 34.01 | \$ 31.52 | \$ 19.94 | \$ 29.03 | \$ 15.82 | \$ 9.64 | \$ 22.00 | \$ 31.52 | \$ 22.00 | \$ 9.64 |
| Total \$ | | | | | | | | | | | |

Total Refund Due

Volume Overbilled
7

APPENDIX D

Water Volume Billing Analysis
Account 2

| Bill Date | 6/24-7/26 | 7/26-8/24 | 8/24-9/27 | 9/27-10/26 | 10/26-11/23 | 11/23-12/28 | 12/28-1/27 | 1/27/2006 | 2/27/2006 | 3/27/2006 |
|-----------------------------------|-----------|-----------|-----------|------------|-------------|-------------|------------|-----------|-----------|-----------|
| Billing Period | 32 | 29 | 34 | 29 | 28 | 35 | 35 | 33 | 33 | 29 |
| # of Days | | | | | | | | | | |
| Volume | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Rate | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 |
| Amount | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 | \$ 5.52 |
| Volume | 9 | 5 | 7 | 6 | 3 | 5 | 4 | 2 | 2 | 3 |
| Rate | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 |
| Amount | \$ 18.54 | \$ 10.30 | \$ 14.42 | \$ 12.36 | \$ 6.18 | \$ 10.30 | \$ 8.24 | \$ 4.12 | \$ 4.12 | \$ 6.18 |
| Volume | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rate | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 | 2.487 |
| Amount | \$ 24.87 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Total TG | 23 | 9 | 11 | 10 | 7 | 9 | 8 | 6 | 6 | 7 |
| Total \$ | \$ 48.93 | \$ 15.82 | \$ 19.94 | \$ 17.88 | \$ 11.70 | \$ 15.82 | \$ 13.76 | \$ 9.64 | \$ 9.64 | \$ 11.70 |
| Total Refund Due | \$ 0.43 | \$ 2.99 | | | | | | | | |
| Rate Difference Amount Overbilled | | | | | | | | | | |